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The Association does not accept the responsibility for the opinions of contributors. Offensive personalities must be avoided.

THE APPROACHING MEETING.

THE organization meeting of the A. Ph. A. was held at the New York College of Pharmacy, October 15, 1851, when the Association was launched under the title of the "National Pharmaceutical Convention," the present title being adopted at the second meeting, which was held at Philadelphia in October of the following year. Since then the Association has met annually, with the exception of the year 1861, when the breaking out of the war between the states forced all non-political questions into the background, and consequently the approaching meeting at Nashville will be the 61st annual, or counting the organization meeting, the 62d meeting of the Association.

In a country so young as ours, 62 years of continuous activity is noteworthy, and gives the A. Ph. A. an air of respectable antiquity among professional organizations of national scope, and its members may be pardoned if they take pride in the fact that the record of these 62 years of activity presents many honorable achievements and few, very few, association actions which require either extenuation or defense.

The historic city of Nashville, so entertainingly described by Local Secretary Burge in the last issue of the JOURNAL, is located at such an altitude that its normal summer temperature is less than that of many cities farther north, and unless unusual meteorological conditions prevail, the members in attendance may expect a week of quite enjoyable summer weather.

The druggists of that city, and indeed of the whole of Tennessee, have been truly indefatigable in their preparations for the occasion. No other meeting of

the Association has been better advertised among pharmacists of the whole country, or so thoroughly advertised among those of the Southern states, and it will be a matter of surprise if the attendance does not approach, or even exceed the record of past conventions.

Two new features of the convention will be the sessions of the House of Delegates and of the newly created Women's Section.

Notwithstanding the fact that much of the time of the House of Delegates was last year taken up by the consideration of matters relating to its organization, it succeeded in presenting a quite creditable report of resolutions considered. This year, with the details of organization largely out of the way, it is to be expected that the House will be able to show by the wisdom of its deliberations that it is capable of becoming a valuable constituent part of the Association.

It is the opinion of many who have studied the subject that the proper and principal function of the General Sessions of the Association should be to pass final judgment upon the questions which have been considered in detail by the smaller divisional bodies. Very often it has occurred that questions of prime importance have been introduced at these sessions, but in such incomplete or imperfect form that the Association had to choose between their adoption without due consideration or their rejection because of lack of time within which to consider them.

As expressed in the resolutions providing for its creation, the functions of the House of Delegates are:

(a) To receive and consider the reports of delegates from the bodies which they represent in the House of Delegates.

(b) To consider and report upon such resolutions, and such other subjects as shall be referred to the House of Delegates by the Council or by the Association in General Session.

(c) To act as a general committee on resolutions and to report to the Council not later than its last session a series of resolutions upon topics concerning the general welfare of the Association or concerning any features of the Association's work.

The Women's Section, although new in its creation, has already demonstrated the wisdom of its establishment by the heartiness with which the women of the Association have taken up the idea and the enthusiastic work they have bestowed upon the preparations for the first meeting.

Perhaps the main object, certainly one of the main objects of this Section, is to afford the means of placing special emphasis upon woman's work in pharmacy.

The A. Ph. A. was an early champion of the cause of women in pharmacy, and in establishing this new Section it has merely proclaimed in a formal and official manner the fact that woman's activity in this sphere is limited only by her capability and her disposition to fill the places open to her.

The program as it now stands represents the best efforts of those having its preparation in charge to harmonize conflicting claims of the different phases of the Association's work, and to give to each of the Sections and to the allied Faculties Conference and National Association of Boards of Pharmacy, the largest allotment of time possible within the week of the Convention. At least two sessions have been allotted to each section and association, this being with the understanding that if additional sessions are necessary, the officers and committees in charge will arrange them so as to cause as little disturbance as possible to the remainder of the program.

With the large number of interests to be cared for, some conflict is, of course, unavoidable, and must be endured with such philosophy as we can summon to our aid. That the members cannot, as in earlier days, attend all of the sessions, is perhaps unfortunate, but until physicists can explain how a body may occupy two or more locations in space simultaneously, no other course is possible.

J. H. BEAL.

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PROGRAM OF THE SIXTY-FIRST ANNUAL CONVENTION OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, NASHVILLE, TENN., AUG. 18-23, 1913.

MONDAY, AUGUST 18.

9:00 a. m. *Meeting of the Council.*

10:30 a. m. *National Association of Boards of Pharmacy.*

3:00 p. m. *First General Session of the Association.*

1. Welcoming Address.
2. Response on behalf of the Association.
3. Reception of Delegates from National Associations.
4. Response on behalf of the Association.
5. Reading of President's Address.
6. Report of Council Proceedings in Abstract.
7. Reports of Committees. Read by Title.
8. Calling the Roll of States, Territories and Provinces.
9. Recess of 10 minutes for the Selection of Representatives on the Nominating Committee. (Each state, territory, etc., is entitled to two representatives.)
10. Reading of Names Reported for Members of the Nominating Committee. (The Nominating Committee will meet immediately after the adjournment of the General Session.)
11. Incidental Business.
12. Adjournment of the First General Session.

7:30 p. m. *First Session of the House of Delegates.*

(The meeting is called to order by one of the officers of the preceding House, who presides until the new officers are chosen.)

1. Calling the Roll of Delegates whose credentials have been approved by the Council.
2. Election of Officers.
3. Appointment of Committee on Resolutions.
4. Reading of Communications from the Council or Association.
5. Calling the Roll of Delegations for the Reception of Reports, Resolutions and Communications.
6. Incidental Business.
7. Adjournment.

9:30 p. m. *President's Reception.*

TUESDAY, AUGUST 19.

9:00 a. m. *Meeting of the Council.*

10:30 a. m. *Second General Session of the Association.*

1. Minutes of the First General Session.
2. Reading of Communications.
3. Report of Committee on Nominations.
4. Minutes of the Council.
5. Reports of the Treasurer and General Secretary.
6. Reports of Standing Committees.
7. Reports of Special Committees.
8. Incidental Business.
9. Introduction of Members the first time in attendance at a meeting of the A. Ph. A.
10. Adjournment.

2:30 p. m. *Women's Section.*
Section on Scientific Papers.
Section on Commercial Interests.
National Association of Boards of Pharmacy. (2d session.)

7:30 p. m. *Second Session of the House of Delegates.*
Section on Pharmacopoeias and Formularies.

WEDNESDAY, AUGUST 20.

9:00 a. m. *Meeting of the Council.*

10:30 a. m. *Section on Education and Legislation.*

12:30 p. m. *Luncheon Reunions of College Alumni.**

2:30 p. m. *Section on Practical Pharmacy and Dispensing.*
Conference of Pharmaceutical Faculties.

6:30 p. m. *Dinner Reunions of College Alumni.*

8:00 p. m. *Section on Education and Legislation.* (2d session.)
Section on Commercial Interests. (2d session.)
Women's Section. (2d session.)

THURSDAY, AUGUST 21.

9:00 a. m. *Meeting of the Council.*

10:30 a. m. *Joint Session of the Section on Education and Legislation.*
Conference of Pharmaceutical Faculties, and National Association of Boards of Pharmacy.

2:30 p. m. *Section on Scientific Papers.* (2d session.)
Section on Practical Pharmacy and Dispensing. (2d session.)

4:30 p. m. *Trolley Ride over the City of Nashville.*

8:00 p. m. *Garden Party and Park Concert.*

FRIDAY, AUGUST 22.

9:00 a. m. *Meeting of the Council.* (Organization for 1913-14.)

10:30 a. m. *Section on Historical Pharmacy.*
Conference of Pharmaceutical Faculties. (2d session.)

*The representatives of each College are expected to make their own arrangements for time and place of meeting.

2:30 p. m. *Excursion to the Hermitage.*
8:00 p. m. *Section on Historical Pharmacy.* (2d session.)
Section on Pharmacopoeias and Formularies. (2d session.)
Final Session of the House of Delegates.

SATURDAY, AUGUST 23.

9:00 a. m. *Meeting of the Council.*
10:30 a. m. *Final General Session of the Association.*

1. Minutes of the Second General Session.
2. *Report of Council Proceedings.* (Including Final Report of the House of Delegates.)
3. Installation of Officers.
4. Incidental Business.
5. Adjournment.

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DISTINGUISHING MARKS FOR DANGEROUSLY TOXIC TABLETS.

DURING the past few months the daily press has furnished numerous accounts of serious or fatal results following the taking of tablets of mercuric chloride, usually in mistake for some comparatively simple household remedy.

With commendable diligence, the pharmaceutical and medical associations have taken up the discussion of the subject, and have offered numerous suggestions for lessening the danger; and it is well that associations should be in the lead in this matter, for if the correction of the evil be left to the vagaries of granger law makers, the chances are that some very ridiculous and inappropriate enactments will be advocated.

The suggestions made relate mainly to the giving of a distinctive character to highly toxic tablets through peculiarity of shape, striking color, or the marking of the package which contains them.

In the present issue of this Journal appear two interesting papers presented at the late meeting of the Pennsylvania Pharmaceutical Association, and both dealing with this subject.

Mr. Apple suggests, among other things, that the tablets should be coffin-shaped, and embossed with the death's-head, in addition to having characteristic color and package.

Mr. Niece, in addition to the suggestion of several unique shapes, lays particular stress upon the color, suggesting that it be green, blue, or red. He also offers some excellent advice as to the wrapping of the individual tablets and the labeling and marking of the container.

Of the various shapes proposed, the writer is inclined to favor most strongly the suggestion that they be coffin-shaped, with a design of a death's-head embossed or impressed on each tablet. This form and marking would be thoroughly distinctive, and calculated to call the attention of the most careless handler to the dangerous quality of the tablet.

The manufacture of the dies necessary to produce this form of tablet would involve no serious mechanical difficulty or material expense.

Of the colors suggested, green, blue, and red, the first two named would be preferable. While it is true that a red color is to a certain extent associated in

the public mind with danger, this applies more to the printed label and wrapper than to the substance itself. So many confections are colored red that a red color in a tablet would, in many cases, fail to arouse any thought of poisonous qualities. Either blue or green would probably answer, but would it not be advisable to take advantage of the prejudice against green already existing in the popular mind, and use this color instead of blue?

The quantity of toxic agent in a single tablet, the method of wrapping and marking the individual tablets, and of labeling the container, are likewise matters of prime importance. Combining the suggestions in the two papers referred to, the writer takes the liberty of formulating the following as a probably effective method of preventing the use of deadly substances in tablet form through mistake:

(1) To adopt the coffin-shape for the form of tablets containing highly toxic substances, each tablet to have embossed or impressed thereon the well-known death's-head. This form and emblem will appeal both to the senses of sight and touch.

(2) To color the tablets green or blue, preferably the former, with some water-soluble dye, so that when dissolved the color of the solution would arouse suspicions of its dangerous nature.

(3) To limit the amount of toxic substance in a single tablet to less than an adult poisonous dose, and thus increase the possibility of recovery if, in spite of the other warnings, a tablet should be swallowed.

(4) To wrap each tablet separately in tin-foil or paper marked in red, with the death's-head or the word *Poison*, or both.

(5) To dispense such tablets in bottles only, to which should be attached a label printed in red, bearing the word POISON, the statement that the tablets are not to be taken internally; that they should not be removed from the bottle except as used; that they should be kept apart from medicines which are used internally and, in addition, instructions for preparing and administering an antidote.

The Journal of the American Medical Association has also proposed that proper indicia for dangerous tablets should be prescribed by the U. S. P. This is a wise suggestion, and if adopted will probably do much to head off vexatious legislation by reformers who would propose impossible and unnecessary regulations.

J. H. BEAL.

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THE 1913 MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE Sixty-fourth annual session of the American Medical Association held in the City of Minneapolis, June 17, 18, 19 and 20, was, in many respects, one of the most successful meetings of that Association. As foreshadowed by the previous happenings of the year, the question of medical education was a prominent subject for discussion, and the members of the medical profession seem, more than ever, convinced that the work that has been carried on in the way of raising the requirements of medical schools has not been in vain. A report of the Coun-

cil on Medical Education dealt with the subject at some length, and incidentally pointed out that during the last six years, no less than sixty-five medical schools had been closed, either outright, or by merging with other schools, and that, despite the fact that several state universities have recently established medical schools, the total number of schools existing in the United States has been reduced from 166 in 1904 to 110 in 1913.

The cost of medical teaching has of course been materially increased, and at the present time the fees paid by students represent but a fraction of the cost of the education that is being given them in the better class of medical schools. This feature of medical education was discussed at some length by George Edgar Vincent, President of the University of Minnesota, who, in his address of welcome, pointed out that:

"The number of years required for medical education and the consequent expense are in danger of limiting the area of ability from which the medical profession is recruited. To the plea that individuals have a right to a short and easy road to professional practice we may well turn a deaf ear. Here, as elsewhere, the interests of the public transcend those of the individual. A cheap medical education is the most expensive for the community. But to limit candidates for medical practice to the economically strong is a wholly different thing. There is reason to believe that men and women who might contribute much to the progress of medicine are now excluded from candidacy. A system of scholarships, maintained through private endowment, through state aid, through the cooperation of an Association like yours, might go far toward meeting this difficulty. The profession must be open to the best ability, wherever found."

He also congratulated the members of the American Medical Association on the creation and perpetuation of the professional spirit, and asserted that a man can be himself only as he lives the life of cooperation and comradeship.

"A profession is a collective personality. Each individual makes contribution to the whole, it is true, but the materials and the inspiration for his own development, are drawn from the common store. Only as men have the imagination to see their lives in their wider relationships, only as they lose their petty personal interests in larger and more generous common purposes, can they attain the true possibility of personal growth."

The work of the sections was, as usual, comprehensive, and the official programme alone includes a total of 168 8-vo. pages, each of the fifteen sections of the Association being represented by from fifteen to forty communications.

The Section on Pharmacology and Therapeutics, which deals more directly with subjects of interest to pharmacists, discussed in five sessions no less than thirty communications, all of them interesting, and some of them, at least, designed to arouse more than passing interest. The address of the Chairman of the Section, Dr. Ray L. Wilbur, of San Francisco, was devoted to a discussion on the teaching of therapeutics from a practical point of view, and will, no doubt, go far towards arousing interest in this, at the present time somewhat neglected, feature of medical education. Prof. Joseph P. Remington, as Chairman of the delegation from the American Pharmaceutical Association, presented felicitations and commented at some length on the progress made in the revision of the Pharmacopœia of the United States. The question of scope being touched upon, Dr.

Torald Sollmann, of Cleveland, offered the following resolution, which, after some discussion, was adopted and referred to the House of Delegates:

WHEREAS, It is desirable that the articles officialized by the Pharmacopœia of the United States should reflect the progress of therapeutics; and

WHEREAS, Therefore the inclusion of articles in the Pharmacopœia now in progress of revision should be determined by their therapeutic merit; and

WHEREAS, The decision of therapeutic questions should logically and in fairness be left mainly to the medical members of the Revision Committee; therefore, be it

Resolved, That the section request the House of Delegates of the American Medical Association to urge on the Committee of Revision of the Pharmacopœia of the United States that the selection of articles to be included be left to the Committee on Scope, in which the medical profession has a majority representation, rather than to the Executive Committee, which represents mainly the pharmaceutical profession, and which has overriden half the changes advocated by the Committee on Scope."

The question of the purity of drugs as they reach the patient was discussed at some length in a paper by W. A. Puckner on the quality of drugs sold to dispensing physicians, and in a paper by M. I. Wilbert on carelessness in the pharmacy as a reason for restricting materia medica. Dr. Torald Sollmann, of Cleveland, also read a paper entitled: "Yesterday, Today and Tomorrow: The Activities of the Council on Pharmacy and Chemistry," in which he outlined some of the efforts that are being made by the Council to improve on the nature of medicaments used in the treatment of disease. The following resolution was adopted by the Section and later concurred in by the House of Delegates:

"WHEREAS, It has been repeatedly shown by the Council on Pharmacy and Chemistry, and by the Chemical Laboratory of the A. M. A., as well as by other investigators, that many drugs and preparations used in the treatment of disease are of unreliable composition, through carelessness, negligence, ignorance and other reasons; and

WHEREAS, This condition of affairs is against the interests of public health and the progress of the science of medicine; therefore it is evident that greater activity is needed in the enforcement of existing laws relating to drugs and medicines; therefore, be it

Resolved, That the Section on Pharmacology and Therapeutics requests the House of Delegates of the A. M. A. to bring this matter to the attention of the proper federal and state authorities, and urge on them the need for more energetic and effective action in this direction."

The remaining papers of the Section on Pharmacology and Therapeutics were largely devoted to discussions on practical therapeutic problems, and the sessions on the morning of Wednesday, June 18, to the morning of Thursday, June 19, were devoted essentially to symposia on practical therapeutics. A joint meeting with the Section on Practice of Medicine on the afternoon of Wednesday, June 18, was devoted to a symposium on serums and vaccines, the practical results of which should go far toward clearing up our present day opinions regarding the possibilities and limitations of these products. The concluding session of the Section on Thursday, June 19, was devoted to a symposium on physical therapeutics. The papers presented at this symposium were conservative in character and

were generally appreciated as being valuable because of their outlining in a practical way the possibilities and limitations of the various physical therapeutic agents that were discussed.

The officers of the Section on Pharmacology and Therapeutics for 1913-14 are: Chairman, J. F. Anderson, Washington, D. C.; Vice Chairman, Robert Hatcher, New York; Secretary, M. I. Wilbert, Washington, D. C.; Delegate, Ray L. Wilbur, San Francisco, Cal.; Alternate, Reid Hunt, Washington, D. C.

Members of the pharmaceutical profession who are interested in the comprehensive nature of the proceedings of the American Medical Association are referred for further details to the Journal of the American Medical Association for June 21, pages 1962-1966; June 28, pages 2052-2053, 2075-2096; July 5, pages 28-40.

Dr. Victor C. Vaughan, of the University of Michigan, Ann Arbor, Michigan, was selected as the President-elect of the American Medical Association, and the next meeting of the Association will be held in Atlantic City in June, 1914.

M. I. WILBERT.

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THE SCOPE OF THE PHARMACOPŒIA.

NOT the least puzzling of the many puzzling tasks which come to the Committee of Revision is that of determining the list of medicaments which are to be admitted to the Pharmacopœia. No matter what may be admitted or what excluded, there will be some who will disagree with the Committee's conclusions.

There is probably not a single agent in the Pharmacopœia that has not been condemned by some medical authority as either useless or dangerous, while, on the other hand, there are hundreds of non-pharmacopœial drugs which have admirers who claim for them the highest therapeutic value. These differences of opinion, of course, grow out of the fact that therapeutics is not an exact science, and therefore that the measure of value of a medicinal substance is to a large extent a matter of opinion. If this were not true, we would not so often see therapeutists of equal ability and considerable professional reputation disagreeing totally as to the merits of a particular drug, one vigorously asserting it to be invaluable in the treatment of a certain class of cases, and another insisting with equal vehemence that it has no value at all, or is too dangerous to be used.

It is true that we can measure the toxic value of drugs by laboratory experiments on animals, but it does not necessarily follow that the measure of toxicity is a measure of their therapeutic usefulness, though the therapeutic action and toxic action may be the same in quality and kind.

A striking illustration of the different conclusions which may be drawn from laboratory experiments and from clinical experience is shown in a paper recently published in this Journal* in which, in reply to questions addressed to over 40,000 physicians as to the value of the vegetable drugs employed by them, it appears that a large majority of the voters placed at or near the head of the list of the agents from which they derived the best results in practice certain drugs which laboratory workers had previously declared to be without any value whatever.

*Vegetable Drugs Employed by American Physicians, Journal A. Ph. A., Nov., 1912, p. 1228.

Whom should we follow in such cases? The workers who base their opinions upon the results observed when the drugs are administered to frogs, cats and guinea pigs, or the thousands of practitioners whose opinions are the result of bedside clinical experience?

The laboratory experimenter may be right; we do not know. This is not a question that can be decided offhand. The practical question which confronts the Committee of Revision is, whether they shall follow the opinions of the few who decry the value of a drug, or the opinions of the many who declare it to be of value.

That we must make choice between contending opinions is evident; for if every drug that is approved by some practitioners be admitted, the Pharmacopœia would be so large as to tax muscular effort in handling it, while if everything be excluded which has been severely condemned by certain practitioners, the table of contents would be represented by zero.

An additional element of confusion is introduced by the fact that it has apparently never been definitely settled whether the Pharmacopœia is primarily intended for the guidance of the physician in the selection of therapeutic agents or for the guidance of the pharmacist in the selection and preparation of the agents ordered by the physician, i. e., whether it is primarily a therapeutic guide or a pharmaceutic guide. There are some things to be said on both sides of the question.

Among the arguments which may be offered in favor of the theory that the Pharmacopœia is to be recognized as a guide to pharmacists in compounding and dispensing rather than for the purpose of directing the physician in the selection of therapeutic agents are the following:

(1) Notwithstanding the fact that the movement which resulted in the creation of the U. S. P. originated with the medical profession, an examination of the first edition of that work and of the medical literature of that date will show that physicians did not have it in mind to establish a book that would tell them what therapeutic agents to use, but one which would provide standards of purity, strength and certainty for the agents concerning whose value they were already satisfied.

(2) The book is practically unknown in physician's offices, and their knowledge of what it contains is confined mainly to what they have learned of it from the dispensatories, or other privately published works.

(3) The book makes no statement regarding the physiological properties of drugs or their therapeutic uses, except that it calls attention to the dangerously poisonous properties of certain substances, and gives a formula for arsenic antidote. No one, from reading the pharmacopœial description alone, could determine for what a drug was intended.

(4) An examination of the Pharmacopœia will show that 99 percent or more of the text relates to matters of pharmaceutic interest only, as methods of manufacturing, assaying, identifying and dispensing of drugs, and that practically none of it, except statements of doses, is of interest to those who prescribe medicines. In fact, most of the text is of such a technical nature that it is unintelli-

gible to those who have not been specially trained in the subjects of the pharmaceutical curriculum.

(5) Physicians have not been in the habit of accepting the Pharmacopœia as a guide in the selection of therapeutic agents, and one of the most common complaints of the day is that physicians persistently prescribe and use advertised proprietary preparations in preference to their non-advertised pharmacopœial equivalents.

In view of this disposition of physicians to prescribe non-pharmacopœial remedies, the charge that the tendency to a comprehensive Pharmacopœia is dictated by commercial considerations is strangely inapplicable. Instead of increasing the use of a remedy by including it in the Pharmacopœia, it apparently has exactly the contrary effect. As soon as its formula and method of preparation are open to everybody, no one is particularly interested in exploiting it, and its popularity begins to wane. This is because physicians are made out of the same kind of human material as are those who pursue other vocations. When a physician gets an attractively printed circular exploiting a given drug or preparation, accompanied by clinical reports (i. e., testimonials of other physicians who have used it), he is impressed accordingly, and prescribes it in preference to its non-advertised official equivalent or substitute.

These preliminary considerations bring us back to the main question, "What shall go into the Pharmacopœia, and what shall be omitted?"

It should go without saying that every agent admitted into the Pharmacopœia should be valuable and reliable, and also that the medical profession should select the remedies to be included, but since physicians do not and apparently cannot agree among themselves, and since there is no known method by which therapeutic value and reliability can be definitely established, there is no alternative but to rely upon the extent to which the remedies are used by the medical profession as a whole as a criterion by which to determine their exclusion or admission.

Within the past few days the writer submitted to a prominent city practitioner a recently published list of drugs recommended for deletion by an eminent pharmacologist. The criticism of the practitioner was both severe and caustic. Referring to certain of the condemned drugs, he said, "I have used these in my practice constantly for years. I would not know how to practice medicine without them. Am I to reject the evidence of my own senses in favor of the opinion of one who has not had one-quarter of the clinical experience I have had? If you want to make a book for the theorists do so, but the practical men in the profession will have no use for it."

Confronted by such perplexing differences of opinion, the Committee of Revision have wisely refused to be limited by the judgment of any particular school or sect, and have chosen to be guided rather by the extent to which a given agent is prescribed by the profession at large. If a given remedy or preparation is frequently used in many sections or in some important section of the country, it has been admitted to the Pharmacopœia; if it is used only rarely, it has been denied admission.

Should the Committee of Revision restrict the list of remedies as greatly as

some would have them do, they might justly be charged with attempting to "dictate to physicians what drugs they shall use," but by admitting all of those which are used and believed in to any considerable extent, they are offering to the medical profession the greatest possible freedom of choice.

If the Pharmacopœia provides proper standards for the favorite drugs of one school or class of physicians, I can see no reason why the latter should object to recognition being given to the favorite drugs and remedies of other classes of physicians.

The liberty of choice of those who believe in a restricted materia medica is exactly the same as it was before the substance was admitted. In other words, such a method of selection results in providing a list wherein the greatest number of physicians are able to find the remedies of their choice, if they desire to use the unadvertised official remedies in preference to the advertised proprietary ones.

On the whole, therefore, it would appear that the Revision Committee is acting wisely when it chooses to admit to the Pharmacopœia every drug which is frequently used by any considerable body of physicians, even though there be other physicians who do not use these drugs in their own practice, and who condemn their use by others.

J. H. BEAL.

Section on Practical Pharmacy and Dispensing

Papers Presented at the Sixtieth Annual Convention

IMPROVED METHOD OF PREPARING CAMPHOR LINIMENT.

OTTO RAUBENHEIMER, PH. G., BROOKLYN, N. Y.

This subject might be called an "old chestnut," having been iterated and reiterated before numerous pharmaceutical meetings. Nevertheless, it is very important, and inasmuch as the proposed process is very simple and does not seem to be generally followed, therefore the writer asks for your attention during a few minutes.

We are all familiar with the present U. S. P. formula and process for *"Linimentum Camphorae,"* namely, "Introduce 200 gm. of Camphor, in coarse powder, and 800 gm. of Cottonseed Oil into a suitable flask, and apply a gentle heat, by means of a water bath, loosely stoppering the flask during the operation. Agitate the flask occasionally until the camphor is dissolved."

This, of course, should produce a Camphorated Oil containing 20 percent of camphor, and it undoubtedly will, provided the modus operandi is carried out carefully. Unfortunately, however, not all druggists are as careful as they should be, and cases have even come to the attention of the writer when oil and camphor were heated in an open dish or were put in a tin can on a hot stove.

Camphor Liniment has been the cause of more prosecutions by health boards and pharmacy boards than any other galenical. Shrewd lawyers have made the defense that in the official process, i. e., the heat of a water bath some of the camphor is bound to evaporate. And strange to say, judges have sustained this plea, even in cases when the preparation in question only contained 12 instead of 20 percent of camphor.

One of the quickest and simplest processes is circulatory displacement, by which the camphor is dissolved in a few hours, f. i., by setting aside over night. No doubt this process is used extensively by pharmacists all over the United States, including the writer, who has always advocated this simple method, which requires no further attention and above all, which requires no heat.

In the present revision of the U. S. P., Prof. Chas. F. Nixon, of Leominster, Mass., has recommended the process of percolation as follows: "Reduce the camphor to a coarse powder, and put it in a narrow glass percolator in which a layer of absorbent cotton has been placed. Pour on the oil till the camphor is covered and when the percolate begins to drop close the lower orifice and allow to stand for 12 hours. Then percolate slowly till the required quantity is obtained."

Prof. Nixon justly claims that this simple process can be carried out in every

pharmacy having a percolator, and the writer wants to add that in order to deserve the name of a pharmacy, not only one but several percolators should be there and should be used. It is evident that in this cold process there can be no loss of camphor by evaporation, as the same is dissolved before the required quantity of oil has passed.

From numerous experiments I can fully recommend the percolation process and the object of this paper is to make this process better known. I want to add further that the cotton in the percolator will also act as a filtering medium and that the resulting preparation will be perfectly clear. As oil attacks rubber, the use of the rubber tube as advised in the official percolation process is impracticable. I find that an ordinary sprinkler stopper with which the flow can be regulated, works satisfactorily. The finer the camphor is the more quickly will it dissolve, but even when coarsely cut it will be dissolved before all the oil is used up.

Upon inquiry, I find that this very simple method of preparing camphor liniment, does not seem to be known much by the pharmacist, very likely on account of its simplicity.

I might also suggest a modification of this process, namely, a combination of percolation and circulatory displacement by inserting a metal sieve, f. i., a coffee or tea strainer, into the percolator several inches above the plug of cotton. By the use of this method it is not necessary to reduce the camphor to a coarse powder, as small pieces will dissolve by circulatory displacement, and the finished product can be drawn off through the stopper after having been filtered by passing through the cotton.

Last, but not least, I much prefer oil of sesamum to cottonseed oil, it being less sticky and gummy and being better absorbed. On the advantages of oil of sesamum over cottonseed oil I have written a number of papers and trust that the former will replace the latter in some of the U. S. P. preparations.

I advise pharmacists to give the percolation process or the "combined" process a trial and be convinced of its simplicity, and furthermore, of its effectiveness in obtaining a full strength camphor liniment, and thus run no risk of being prosecuted by the authorities.

DISCUSSION.

Mr. Jones, discussing this paper, said that he was accustomed to use the circulatory process, but used a glass jar that Spearmint gum came in, with a glass cover. He spread over the top of the jar a piece of gauze, placing on the gauze his powdered camphor and placing over that gauze the glass cover to fasten it. In the winter-time, when he was running a radiator, he placed it on the radiator. He found this a very simple and satisfactory process.

Mr. S. K. Sass, of Chicago, said he was in favor of percolation. A percolator was a thing to be found in almost every pharmacy; and where one was not found, it could hardly be called a pharmacy. But it was not every pharmacy that would have such a cover for a Spearmint jar, or some device of that sort. He believed that percolation was better, though he thought the process in the Pharmacopoeia was not bad. He dissolved his camphor in a can, which was loosely corked, and he thought no more camphor was lost in this way than by making it by any other process. In the case mentioned, where there were only 12 drams of camphor to 100 of the liniment, he thought the deficiency must have been intentional.

SOME PHARMACEUTICAL NOTES.

WM. R. WHITE, PH. C., NASHVILLE, TENN.

U. S. P. Elix. Phosphate, Iron, Quinine and Strychnine.—Three samples were kept for four months, exposed to ordinary light of laboratory and the change in colors observed. No. 1, made by U. S. P. method, changed to a light brown color. No. 2, with 4 gr. carbonate potash to each ounce, changed to dark brown. No. 3, with 4 m. hydrochloric acid to each ounce, remained unchanged.

Tinct. Opium Deodorized.—I much prefer to use paraffin as a deodorant instead of purified petroleum benzin. I have found it be both convenient and reliable. The disagreeable odor of the benzin and the danger of an explosion from the ignition of the vapors are both avoided. About 70 gm. of paraffin to a litre of tincture is sufficient. The paraffin should be melted and added to the hot evaporated aqueous extract, stirred well, allowed to remain over night and then removed in a solid cake. In assaying the tincture made by this method, I have noticed that the morphine is remarkably white and pure.

Tinct. Opium Camphorated.—No good reason can be seen for making this from granulated opium and having to wait three days for it to macerate, when it can be made in a very short time by using an equivalent amount of tincture of opium.

By dissolving the benzoic acid, camphor and oil of anise in about 10 percent of the alcohol, and adding this gradually, with stirring, to a mixture of a greater part of the dilute alcohol, the tincture of opium and the glycerin, and then adding gradually an amount of water equal to the alcohol used at first and finally adding dilute alcohol in quantity sufficient, and filtering, an excellent tincture can be made in a very short time.

Tincture of Iodine.—Mr. E. A. Geyer's method (see Bul. Pharm., vol. XXVI, p. 167), of making this tincture by pouring the alcohol on the iodine and potassium iodide, which have been placed on a pledget of cotton in a glass funnel and collecting the percolate in a graduated bottle, is one which I can commend very highly as being a great improvement over the U. S. P. method. I have found it best, however, to rub the potassium iodide to a very fine powder, as it will be necessary to return the percolate to the funnel again if the granular salt is used.

Sweet Spirit of Nitre.—In making this from the concentrated ether, I have found that with some samples of alcohol a very red color would immediately appear, but after standing about 12 hours would resume its natural color again. I attribute this to a small amount of tannin in the alcohol, which is sometimes dissolved from the barrel.

Color in Fresh Lemon Peel.—After extracting practically all the color from some fresh lemon peels with alcohol, some lime water was added to the mixture. Almost immediately the solution was colored a brilliant yellow color. The peels, which were very brittle and almost white when taken from the alcohol, had also changed to a yellow color.

Ammonia, sodium hydroxide, potassium hydroxide, potassium carbonate and

other alkalies all gave the same result. The addition of acids to the alkaline solution or to the alcoholic tincture completely destroyed all color, but the addition of an excess of alkali restored it again.

Some of this coloring principle was obtained by evaporating an ammoniacal solution of this yellow color on a water bath. It was a brownish resinous substance, insoluble in alcohol, ether, or chloroform, but completely soluble in water or in dilute alcohol.

The dried peel also yields its color to alkalies, but the color is a browner shade. Boiling the solution had no effect on the color.

By taking advantage of this fact these rejected lemon peels can be used very profitably as a coloring for aqueous, alkaline and hydro-alcoholic solutions.

Camphor Liniment.—By powdering the camphor, putting it in a cheese cloth bag, and suspending this in the cotton seed oil, stoppering the bottle and shaking at intervals for two or three days, an excellent preparation can be made which is strictly U. S. P. There is no chance of losing the camphor by volatilization as in the U. S. P. method.

THE DRUDGERY OF THE DRUGGERY.

The grocer, the butcher and the general stores close at 6 o'clock and no Sunday work. Has it occurred to you that we, among all trades, workers and professions, are keeping our stores open fifteen to sixteen hours a day and desecrate the Sabbath under the cloak of necessity? We have become slaves to our business, no time for recreation, no time for druggists' meetings, not even time, I am told to take off the wrapper from the drug journals to absorb the information that may turn the tide of prosperity our way.

Commercial side lines are pointed to as the remedy and they, no doubt, are doing great things for some of us in a financial way and I believe in stocking them to the limit, but the fact of our becoming pirates on other lines to continue the practice of our profession is at most a poor substitute for the profit we should get on our own lines.

The remedy is this: Get together; support our organizations as we should, both financially and morally. We have them with officers who sacrific time and money to better conditions for you. Why is it necessary that a few faithful should be obliged to uphold them? Why is it necessary that the traveler who receives no direct benefit therefrom should be called upon to support your organizations that are for your benefit, for your advancement alone? Have we no pride, no shame, no manhood?

The mechanic and the laborer contribute more per capita to the support of their organizations than we would if we joined the National Association of Retail Druggists, American Pharmaceutical Association, and our state and local associations.—*Richard T. Merring.*

Section on Education and Legislation

Papers Presented at the Sixtieth Annual Convention

THE ENFORCEMENT OF LAWS RELATING TO THE PUBLIC HEALTH.

J. H. BEAL, SCIO, OHIO.

The principal laws which may be grouped under the above head are as follows:

1. General laws relating to sanitation, protection of water supply, quarantine against contagious diseases, etc., usually enforced by a commission of physicians known as the State Board of Health.

2. Laws regulating admission to the practice of medicine, pharmacy and dentistry, the enforcement of which is in the hands of boards or commissions known by various titles. We may also include in this class the laws regulating undertaking, and veterinary medicine.

3. Laws which relate to the adulteration of foods, beverages and drugs, the method of enforcement of which is various. In some cases their enforcement is in the hands of the board of health; in some cases, especially as relates to drugs, in the hands of the State Board of Pharmacy; and in still other cases in the hands of a special food and drug commissioner.

In the enactment of these laws there has generally been much contention as to the authorities to which their execution should be entrusted. Physicians, pharmacists, dentists, etc., have each insisted that the body of laws relating to their respective vocations should be administered by officials who are members of such professions, and each profession has been jealous of an interference with its so-called rights by any of the other professions.

If the laws regulating these various vocations were enacted solely for the benefit of the vocations concerned, then these contentions might be valid. As a matter of fact, however, the only justification that can be alleged for the legal regulation of any calling is the necessity of protecting the general public welfare; and unless this end is attained by the existence of the law it is vicious only. Since the general good is the sole excuse for these laws, the method of enforcement should be such as will be most economical, speedy, impartial and effective. Their execution divided as it now is among a number of different boards and commissions lacks most if not all of the foregoing qualities.

There is not a state wherein the laws regulating the practice of medicine, pharmacy and dentistry are not constantly being violated, and apparently with impunity. The members of the respective professions who comply with the legal requirements are burdened by various special fees and taxes, while those who

disregard them are free from such burdens. In other words, the law-abiding members of the profession are at a distinct disadvantage as compared to the outlaws, a situation which always tends to increase the number of outlaws and to decrease the number of those who comply with the law.

Druggists, as a rule, have been inclined to insist that the laws providing penalties for the sale of impure and adulterated drugs shall be administered by the board of pharmacy, the members of which are usually required to be men actually engaged in the drug business. Similarly the farmers have been inclined to insist that the board or commission charged with enforcing the law against the adulteration of foods shall be selected from the agricultural class because foods are agricultural products.

If these concessions be made to druggists and farmers why should they not equally be made to every other class of men whose business is the subject of legal regulation?

As a practical method of securing efficiency, impartiality and economy in administration I suggest the following:

That the state boards of health, medicine, pharmacy, dentistry, etc., be replaced in each state by one general board composed of one or more representatives from each of the professions, each of whom shall devote his whole time to the duties of his office, and that to this general board or commission there be entrusted the administration and enforcement of all of the laws relating to sanitation, admission to the practice of pharmacy, medicine and dentistry, adulteration and misbranding of foods and drugs, and prosecutions for the violation of any of these acts.

Naturally the inspectors, chemists, etc., upon whose recommendations and testimony prosecutions were begun would be men specially trained and experienced in their respective subjects, and therefore not likely to recommend prosecutions for frivolous or merely technical causes, but I contend that the prosecutions themselves should be directed by men whose personal interests would not be effected by the result of such prosecutions.

This general board should also have the authority to appoint committees of expert examiners to test the fitness of candidates for admission to practice, and upon the report of these special examiners the general board should issue the license or certificate of registration.

Some of the results which might be expected to follow such a change in the methods of administration are:

1. The very much greater economy—in proportion to the work accomplished—of one board of five to seven members as compared to four or five boards each having five or more members.

2. The better correlation of the laws and methods of administration.

3. The greater likelihood that the law would be impartially and rigidly enforced for the general public benefit.

The jealousy of each one of the branches of medicine of interference by another is such that an attempt to consolidate the various boards under one heading would no doubt be fiercely resisted. In the long run, however, I believe it would be to the distinct advantage of all of the branches of medicine if such a consoli-

dation and concentration of effort could be made, and that it would be the part of wisdom for us to lay aside our petty contentions and to work for this reform.

The foregoing suggestions are not offered with the idea that they will be favorably received by the present generation, but simply as the outgrowth of the writer's experience and observation.

DISCUSSION.

Dr. Albert Schneider, of San Francisco, stated that he approved most heartily of the remarks made by Mr. Beal, from a theoretical standpoint. He certainly approved of the centralization of power. If he had his own way about it, he would centralize all that in himself. It had been demonstrated in actual practice that it would not often do to attempt to administer the pure food and drug laws under one head. In California they were administered by the State Board of Health, and they had found it fairly satisfactory, for the reason that the doctors there were very fine men, "the best in the United States," were interested in the health of the state, and were doing most excellent work. But, unfortunately, they knew little about the purity of drugs.

Dr. H. H. Rusby, of New York City, said he approved of Mr. Beal's paper from a practical point of view, and believed it was the only practical way the thing could be worked out; and he wishes to add that he believed every municipality, every town, should have its own board to cooperate with the State Board, or they would not accomplish anything. The agitation must be kept going until the people in the neighborhood became interested enough to have their cow-stables cleaned and free from disease germs, and their ice cream of a suitable character.

SOME REFLECTIONS CONCERNING LEGAL AND MORAL STANDARDS.

WILHELM BODEMANN.

This is the age of specialization—and yet, as I undertake to write you a few remarks on legislation I find that some legislative work is a veritable campaign of education, and branches into commercial channels also. I am driven to the conclusion that the efforts to maintain living prices may as well be abandoned, there is too much lack of decision and cohesion in our ranks, even some of the so-called leaders preach maintenance of prices and practice "cutting." But there is one legislative stunt that can be tried that will and must result in better prices and diminish cutting; as it is the honest man suffers, the dishonest man rakes in the business and decent pharmacy is put to shame. The great A. Ph. A. should leave no effort untried to place the testing of drugs and pharmaceutical products with competent and independent Food and Drug Commissions, and change the Pharmacy Laws accordingly. One instance may suffice: Solution of magnesium citrate in larger cities is cut to 15 and 20 cents per bottle. It cannot be prepared according to U. S. P. to be sold at that price. But it is sold at that price, and made from magnesium sulphate, ordinary epsom salt!!

Some of our larger cities are cursed with a heavy percentage of druggists whose regard for the orthodox and antique creed of honesty and decency is absolutely nil—a class of undesirables who consider it smart and up-to-date to beat a competitor by ways that are mean and tricks that are dark! If this class of

"outlaws" could be made "inlaws" by compelling U. S. P. standards, cutting on many products would be stopped at once. This applies to spirit of camphor, tincture of iodine and similar products, cut by the "Cheap Johns" in proportion to the percentage of adulteration. Many of our Boards know of these things, but either are not equipped with the Laboratory to test products, or are not equipped with the ability, or lack courage to enforce the law. And we all agree that an *unenforced law is worse than none.* Now see where the commercial result of this shift to an energetic Food Commissioner, independent of commercial connections, would land. It would compel these cheap "Calico Johns" to come up to decent prices, and remove from the honest, law-abiding pharmacist the stigma of overcharging his patrons for full standard goods. I would therefore urge the A. Ph. A. to join hands with the various State Associations, the N. A. R. D., and the various Medical Boards to put the U. S. P. standard up as a goal, and put it up to stay!!

Talking about standard brings back to my mind the cry I have listened to for these many years, "Raise the Standard."

Our City Schools have just closed for the summer vacation, and a bunch of eighth-grade boy graduates presented themselves for work. I let them do some figuring, and here is a fair example: What does a box of 50 cigars cost me at $75.00 per thousand, 5 and 3 off? One boy threw up the sponge after ten hard trials. Nine boys figured out the net price higher than the list price. Now what can you do with such a set of hopeless cripples? What earthly good can a diploma from such schools do when such boys can demand recognition of their parchment! Our schools need touching from bottom up; there is too much attention to branches and to little to roots! That's the curse! Such pharmaceutical cripples (adopting the Searby nomenclature) are a danger to the professional side of pharmacy and an equally great danger to the commercial side, because such a Stoughton Bottle will not know when he is selling goods at a loss, and at the close of my paper I am again at the starting point, when I say that in spite of specialization, commercial, educational and legislative standards, all run into *one* channel, the great river of enlightened honesty and decency.

THE JUDGMENT OF THE MAJORITY.

The benefactors of humanity have paid a heavy penalty to Ignorance for the privilege of helping the world along.

We have cluttered the avenues of progress with incredulity—we have heaped discouragement upon the head of every adventurer who went prospecting into the Hills of Chance.

Had advancement been regulated by the judgment of the majority, we would now be luxuriating in the comforts and conveniences of the pre-Arthurian period—the Twentieth Century would be a thousand years overdue—we would continue to celebrate new thought with human bonfires, and the prevailing religion would be the worship of the golden ass.—*Herbert Kaufman.*

Contributed and Selected

A LAST PLEA FOR A USEFUL PHARMACOPŒIA.*

OLIVER T. OSBORNE, M. D., PROFESSOR OF THERAPEUTICS AT YALE MEDICAL SCHOOL, NEW HAVEN, CONN.

Shall we have the United States Pharmacopœia up to date and of scientific and therapeutic value, or shall it be a book of ancient drug lore intermixed with drugs of real value?

It is now nearly three years since the Pharmacopœial Convention of 1910, and what has been accomplished? Many of the drugs which have been approved have already been announced, and, as it has wisely been determined that a subject of such wide, almost universal, interest as the United States Pharmacopœia should not be made a secret affair—in other words, that its decisions should be public, what follows is not a breach of confidence. The subject, in every detail, is one of public interest, and, therefore should be of public knowledge.

In this age of exposure of "patent-medicine" frauds, and the age of education as to the danger of some drugs, the uselessness of others, and the limitations of all, the people have a right to expect that the next Pharmacopœia will be a book that can be relied on as a standard of purity and of chemical and pharmaceutical perfection in all its drugs and preparations. They have a right to expect that this book will represent the drugs found by medical experts to be of the best therapeutic value at this date, namely, 1913 A. D.

Can there be any other guide for the acceptance of a drug or preparation for officialization in an up-to-date book of this age than that:

1. The drug must have therapeutic value.
2. The drug must be pure.
3. The preparations must be the best.

What, then, determines the best drug? Investigations in the laboratory and clinical experience—and almost every drug that is known to have clinical value shows laboratory activity. If a drug has no activities, or only dangerous activities when used on animals in the laboratory, it is not a drug that should be dignified by recognition in a 1913 book of standard valuable drugs.

Selection of Drugs for the Pharmacopoeia.—At the convention in 1910 it was stated that the selection of drugs was peculiarly the duty of physicians, while the selection or determination as to which were the best preparations, and how they should be made, was the duty of the pharmacist. How has this been lived up to?

In the first place, fifty members of the Pharmacopœial Convention were elected a Committee on Revision. Of these fifty, only six are practicing physicians;

*Reprinted from the *Journal of the American Medical Association.*

i. e., only six members of this Committee on Revision are qualified to judge at the bedside of the value of the action of a drug, although several members are medical laboratory men and are well qualified to decide on the activities of drugs.

Next, through the stimulation of various agencies, many of the medical societies of the country appointed special committees who prepared lists of drugs they considered valuable, and of drugs they considered should be omitted from the next Pharmacopœia. These lists, in due time, reached the office of the Chairman of the Committee on Revision, Professor Remington, and he, at great office trouble and considerable expense, circularized these lists to the Committee of Fifty.

To show how helpful these lists of drugs were, I will quote the opinion of one member of the Revision Committee, not a physician, concerning them, which was circulated to all of the members of the committee. This circularized opinion (italics mine) is as follows:

"The Revision Comittee may wisely forget about nine-tenths of the well-meant advice which has come to it . . . . . thankful for the interest shown by an increasing number of physicians."

How many other members of the Committee on Revision agreed with this opinion I am not able to state, but the outcome of the present list of accepted drugs and preparations for the next Pharmacopœia shows that the Executive Committee, the committee of final decision as to what drugs shall appear in the next Pharmacopœia, did not care an iota what drugs these medical societies approved or what they disapproved. In other words, little if any notice was taken of these lists so carefully prepared by some of the medical societies of the country. Those who prepared these lists should know this fact.

The approval by the Executive Committee of drugs of no therapeutic value and their consequent officialization causes them, of necessity, to be described in text-books on materia medica and consequently to be used by physicians. A study of 117,000 prescriptions collected from different parts of the United States showed the number of times therapeutically useless drugs were ordered. The data thus obtained has been used as an excuse for officializing these drugs in the next Pharmacopœia. These will again be copied and described in materia medica books, and the next graduates in medicine will again prescribe these drugs, and the vicious cycle will persist.

A Subcommittee on Scope voted on the drugs of the last Pharmacopœia, as to whether they should be accepted for the next Pharmacopœia or whether they should be omitted. The chairman of this committee dissolved favorably to admission a large number (65) of tied votes. These lists of acceptances and deletions were then sent to the Executive Committee. The Executive Committee is the court of last appeal, and consists of the chairmen of the different subcommittees, fifteen in number. This committee has the power of approving or overruling any decision of the Subcommittee on Scope, and exercised this power liberally. It also did not hesitate to admit some preparations that had never even had the formality of a vote by the Subcommittee on Scope.

Personnel of Committees.—Now, who are these members, elected from the convention by accredited delegates from the medical societies, medical colleges, pharmaceutical societies, pharmaceutical colleges and from several departments

of the Government of the United States? For our purpose it is not now necessary to enumerate all the members of the Committee on Revision, but only those who constitute the Subcommittee on Scope, and those who constitute the Executive Committee, namely, the chairman of the fifteen subcommittees.

The Subcommittee on Scope consists of:

Name.	*Position Held.*
S. Solis-Cohen, M.D., Chairman	Prof. Clin. Med., Medico-Chi. College.
Reid Hunt, M.D.	In Hygienic Laboratory, U. S. P. H. S.
Philip Marvel, M.D.	Practicing physician; Trustee A. M. A.
O. T. Osborne, M.D.	Prof. Therapeutics, Yale University.
H. H. Rusby, M.D.	Pharmacologist; Prof., N. Y. College Pharmacy.
Torald Sollmann, M.D.	Prof. Pharmacology, Western Reserve University.
H. C. Wood, Jr., M.D.	Pharmacologist; Prof. Pharmacology and Thera., Medico-Chi. College.

The Executive Committee consists of:

S. Solis-Cohen, M.D.	Prof. Clin. Med., Medico-Chi. College.
Torald Sollmann, M.D.	Prof. Pharmacology, Western Reserve University.
J. F. Anderson, M.D.	Hygienic Laboratory, U. S. P. H. S., Washington.
Henry Kraemer, Ph.D.	Prof. Botany, Philadelphia College of Pharmacy.
Charles H. LaWall, Ph.D.	Pharmacist and consulting chemist; Prof. Philadelphia College of Pharmacy.
George D. Rosengarten, Ph.D.	Chemist of Powers-Weightman-Rosengarten Co., Mfg. Chemists.
A. D. Stevens, Ph.D.	Pharmacist; Prof. Sc. Pharm., University of Michigan.
H. W. Wiley, M.D., Ph.D.	Chemist; Ex-Chief U. S. Bureau of Chemistry.
G. M. Beringer, Ph.M.	Pharmacist in retail business.
C. L. Diehl, Ph.M.	Pharmacist (retired); Emeritus Prof., Louisville College of Pharmacy.
W. C. Alpers, Sc.D.	Pharmacist in retail business.
Otto Raubenheimer, Ph.G.	Pharmacist in retail business; Editor *Practical Druggist.*
Wilhelm Bodemann, Ph.G.	Pharmacist in retail business.
A. B. Lyons, A.B., M.D.	Pharm. Chem., with Nelson, Baker & Co., Mfg. Chem.
Chas. Caspari, Jr., Phar. D.	Pharmacist; Prof. University of Maryland.; Commissioner, Maryland State Board of Health.

Of this "court of last resort" there is one physician who practices at the bedside (Dr. Solis-Cohen), one who is a medical laboratory expert on the activities of drugs (Dr. Sollmann), one who is a drug laboratory expert at the Hygienic Laboratory (Dr. Anderson), and one who is a food and drug expert (Dr. Wiley); the other eleven are interested in some branch of pharmacy. These facts in conjunction with the way some, at least, of the pharmacal members look on recommendations of the medical men will show how much in evidence was the axiom that "physicians should decide what drugs should enter the Pharmacopœia."

At this date the new Pharmacopœia will contain at least 845 drugs and preparations. About half of these are not needed. One hundred and fifty-eight drugs and preparations were recommended for omission from the last Pharmacopœia by the Subcommittee on Scope. Just half of these, namely, seventy-nine, were voted in by the executive committee over the adverse recommendation of the Subcommittee on Scope, and it should be remembered that only one member of this executive committee is a physician practicing at the bedside, and he, in the Subcommittee on Scope, in sixty-five tie-votes, had decided in favor of admitting the drug under discussion. In other words, sixty-five more drugs and preparations would have been deleted by the Subcommittee on Scope had its chairman not voted in their favor, and he still had one more vote coming to him in the Executive Committee decisions.

Useless Drugs Accepted for the Next Pharmacopoeia.—It was "love's labor" absolutely "lost" to collect 117,000 prescriptions from all over this country in order to ascertain how many times a given drug or preparation was ordered. How many times a drug or preparation is ordered is no criterion as to its value. Beer is in enormous demand, but it has not yet been shown that it has any medicinal or food value. Is the nutrient value of a food determined by the frequency with which it is used? The turnip is a vegetable that is constantly bought and constantly eaten, but its food value is almost nil. The Pharmacopœia is supposed to be a book of standards for drugs,and each drug should have some valuable activity.

As previously stated, *if a physician desires to order a second-rate drug, he can always obtain it by the standard* (if there was one) *described in the last Pharmacopoeia in which it was named.* If this were not a fact, and if it were not a recognized fact, deletions of drugs from previous pharmacopœias would not have taken place. Such deletions (omissions) have occurred and a large number of drugs which appeared in the last Pharmacopœia will not appear in the next, according to the approved deletion list of the Executive Committee.

If some drugs have been deleted on account of their lack of value, why may not all drugs which are without value be deleted? The argument of those members of the Revision Committee who desire a large Pharmacopœia is that a drug should be accepted and standardized, if some physicians desire that drug. The same argument would hold good for the very drugs that these men have deleted, and therefore this is an argument of no value for officializing drugs that are worthless.

It should constantly be borne in mind that the greater the number of drugs officialized, the greater the number of preparations that must be made, the greater amount of manufacturing that must be done by the pharmaceutical houses, and the greater the amount of buying that must be done by the retail druggist; in other words, the decision as to whether a useless drug shall enter the Pharmacopœia or not, is a commercial one. Will the medical men of the country stand for commercialism as determining whether or not a substance shall be officialized in the next Pharmacopœia, a supposed book of dependable values of useful drugs?

The following useless drugs and their preparations have been accepted at this date, April, 1913, for the Ninth Decennial Revision of the United States Pharmacopœia. It is, of course, supposable that many physicians will disagree with me in considering these drugs as of little value. Will anyone assert that any one of them is needed to cure a patient of an ailment, or to treat a condition, that may not be better treated by more active drugs?

Anthemis (Chamomile)
Arnica
  Tinctura Arnicae
Berberis (Oregon Grape Root)
  Fluidextractum Berberis
Calendula (Marigold)
  Tinctura Calendulae
Calumba (Calumbo)
  Fluidextractum Calumbae
  Tinctura Calumbae
Cannabis Indica (Indian Hemp)
  Extractum Cannabis Indicae
  Fluidextractum Cannabis Indicae
  Tinctura Cannabis Indicae
Chondrus (Irish Moss)
Cimicifuga (Black Snakeroot)
  Extractum Cimicifugae
  Fluidextractum Cimicifugae
  Tinctura Cimicifugae
Condurango

Convallaria (Lily of the Valley)
  Fluidextractum Convallariae
Crocus (Saffron)
Eriodictyon (Yerba Santa)
  Fluidextractum Eriodictyi
  Fluidextractum Eriodictyi Aromaticum
Frangula (Alder Buckthorn)
  Fluidextractum Frangulae
Gambir (Pale Catechu)
  Tinctura Gambir Composita
Gossypii Cortex (Cotton Root Bark)
  Fluidextractum Gossypii Corticis
Grindelia
  Fluidextractum Grindeliae
Guaiacum (Guaiac)
  Tinctura Guaiaci
  Tinctura Guaiaci Ammoniata
Haematoxylon
  Extractum Haematoxyli
Hydrastis (Goldenseal)
  Fluidextractum Hydrastis
  Glyceritum Hydrastis
  Tinctura Hydrastis
Kino
  Tinctura Kino
Krameria (Rhatany)
  Fluidextractum Krameriae
  Tinctura Krameriae
Lactucarium
  Syrupus Lactucarii
  Tinctura Lactucarii
Leptandra (Culver's Root)
  Extractum Leptandrae
  Fluidextractum Leptandrae
Lupulinum
  Fluidextractum Lupulini
  Oleoresina Lupulini
Matricaria (German Chamomile)
Mezereum
  Fluidextractum Mezerei
Moschus (Musk)
  Tinctura Moschi
Oleoresina Petroselini (Parsley) (Apiol)
Oleum Hedeomae (Oil of Pennyroyal)
Pareira
  Fluidextractum Pareirae
Phytolacca (Poke)
  Fluidextractum Phytolaccae
Pyrethrum (Pellitory)
  Tinctura Pyrethri
Quassia (Bitterwood)
  Tinctura Quassiae
Quillaja (Soapbark)
  Tinctura Quillajae
Rhus Glabra (Sumach)
  Fluidextractum Rhois Glabrae
Sabal (Saw Palmetto)
  Fluidextractum Sabal
Sanguinaria (Bloodroot)
  Tinctura Sanguinariae
Sarsaparilla
  Fluidextractum Sarsaparillae
  Fluidextractum Sarsaparillae Compositum
Senega (Senega Snakeroot)
  Fluidextractum Senegae
  Syrupus Senegae
Serpentaria (Virginia Snakeroot)
  Fluidextractum Serpentariae
  Tinctura Serpentariae
Staphisagria (Stavesacre)
  Fluidextractum Staphisagriae
Stillingia (Queen's Root)
  Fluidextractum Stillingiae
Sumbul
  Extractum Sumbul
  Fluidextractum Sumbul
Taraxacum (Dandelion)
  Extractum Taraxaci
  Fluidextractum Taraxaci
Triticum (Couch Grass)
  Fluidextractum Tritici
Uva Ursi (Bearberry)
  Fluidextractum Uvae Ursi
Xanthoxylum (Prickly Ash)
  Fluidextractum Xanthoxyli
Zea (Corn Silk)
  Fluidextractum Zeae

There is no good proof that hydrastis preparations have any special action on mucous membranes when used externally. There seems to be no good excuse for giving the disagreeable hydrastis preparations internally for action on the stomach.

Cannabis indica is a drug that varies greatly in strength, and its preparations rapidly deteriorate. Its action is therefore very uncertain, and therapeutically it is doubtful if cannabis indica is of any value, unless a too large dose of a strong preparation is given.

Drugs and Preparations that are Deleterious.—The following should not be officialized:

Veratrin and oleate of veratrin are dangerous.

Linimentum belladonnae is dangerous. The amount of absorption is uncertain.

Troches of potassium chlorate should not be officialized, as saliva mixed with potassium chlorate should not be swallowed. Potassium chlorate should never be given internally, in my opinion. It can cause severe irritation and even ulceration of the stomach, and kidney irritation and inflammation.

Dilute hydrocyanic acid should not be officialized, as it has no action whatever unless the dose is large, and then its action is dangerous.

Rapidly Deteriorate.—The following are a few of the preparations which rapidly deteriorate, and hence should not be officialized:

Acidum Hydriodicum Dilutum
Syrupus Acidi Hydriodici Dilutum
Acidum Hypophosphorosum
Acidum Nitrohydrochloricum Dilutum
Aqua Aurantii Florum
Aqua Aurantii Florum Fortior
Aqua Rosae
Aqua Rosae Fortior
Mucilago Acaciae
Mucilago Sassafras Medullae
Syrupus Aurantii
Syrupus Aurantii Florum

Inferior Preparations.—If the selection of a drug or preparation were left to the layman who must take the medicine, it is presumptive that he would select the most active, other things being equal, of the drugs or preparations of the class that he needed. The same must be true of the physician writing the prescription. Hence why should we standardize and officialize preparations of a second-rate drug? The following drugs have been accepted for the new Pharmacopœia, though they are pharmacologically and therapeutically inferior to other drugs which act similarly. I realize, of course, that many physicians will find many points of difference in opinion in regard to the individual drugs and preparations, but as a class each reader will certainly decide against these drugs and preparations, if he is familiar with the pharmacology of these and better drugs. While many of these drugs have activities, they are inferior to other drugs and preparations of the same class.

Acetum Scillae (Vinegar of Squill)
Ammonii Bromidum
Ammonii Iodidum
Ammonii Salicylas
Bismuthi et Ammonii Citras
Calcii Bromidum
Cambogia (Gamboge)
Camphora Monobromata
Carbo Animalis Purificatus
(Purified Animal Charcoal)
Ceratum Plumbi Subacetatis
(Goulard's Cerate)
Cerii Oxalas (Cerium Oxalate)
Infusum Pruni Virginianae
Liquor Acidi Arsenosi
Liquor Arseni et Hydrargyri Iodidi
Liquor Hydrargyri Nitratis
Liquor Ferri Subsulphatis
(Monsell's Solution)
Liquor Zinci Chloridi (Solution of Zinc Chlorid)
Magnesii Oxidum Ponderosum
(Heavy Magnesium Oxid)
Cinchoninae Sulphas
Euonymus (Wahoo)
Extractum Euonymi
Extractum Quassiae
Fluidextractum Cinchonae
Fluidextractum Digitalis
Fluidextractum Gentianae
Fluidextractum Rosae
Glyceritum Amyli (Glycerite of Starch)
Glycyrrhizum Ammoniatum
(Ammoniated Glycyrrhizin)
Guarana
Fluidextractum Guaranae
Oleatum Quininae (Oleate of Quinin)
Oleum Picis Liquidae (Oil of Tar)
Pilocarpinae Nitras
Quinina
Sodii Acetas
Sodii Chloras
Sodii Phosphas Exsiccatus
Styrax
Sulphonmethanum
Syrupus Rosae
Zinci Acetas

Unnecessary Officialization.—The following drugs have been accepted for the Pharmacopœia in two forms, or several of the same group have been accepted, though their activities are so similar that reduplication seems unnecessary. Although not listed here, the preparations of many of the drugs are too many. Where several preparations of a drug are offered, one or more of them is superfluous. The careless redundancy of the Executive Committee is shown by the fact that it has officialized in its last approved list, March, 1913, *scopolamin hy-*

drobromid and *hyoscin hydrobromid,* though they are commercially, pharmacally and therapeutically identical. Following are a few unnecessary redundancies:

Belladonnae Radix (Belladonna Root)
Belladonnae Folia (Belladonna Leaves)
Colchici Cormus (Colchicum Root)
Colchici Semen (Colchicum Seed)
Cinnamomum Saigonicum
Cinnamomum Zeylanicum

Hyoscyamus
Fluidextractum Hyoscyami
Tinctura Hyoscyami
Strammonium
Tinctura Stramonii
Unguentum Stramonii

} These drugs are so similar to belladonna that there seems to be no reason for officializing them and their preparations.

Hamamelidis Cortex (Witchhazel Bark)
Hamamelidis Folia (Witchhazel Leaves)
Hyoscinae Hydrobromidum
Scopolaminae Hydrobromidum
Liquor Potassii Arsenitis (Solution of Potassium Arsenite)
Liquor Sodii Arsenitis (Solution of Sodium Arsenite)
Viburnum Opuli (Cramp Bark)
Viburnum Prunifolium (Black Haw Viburnum)

THE DEADLY BICHLORIDE TABLET.*

FREDERIC E. NIECE, PHAR. D., NEW YORK CITY.

The rather large number of accidental poisonings by the careless taking of mercuric chloride tablets for those of some other less harmful drug is appalling, to state the least. Within the last few weeks, no less than nine to ten cases have been reported by the daily papers, in which serious consequences have resulted. The large percentage of deaths that have been recorded through the careless or ignorant handling of these tablets calls for stronger safeguards than the ordinary precautions now in force. The publicity given this form of poison, and its potent action, has created in the lay mind a new and easy source for obtaining new material for criminal purposes or self destruction.

The question therefore arises, what can be done to safeguard the innocent public against this new form of danger which seems to be increasing daily. These safeguards do not rest so much in legislative measures, which is the generally accepted plan for promoting the public safety, but more in well-devised public education as to the toxicity of such tablets, and such other efficient means as will forewarn the innocent in the event that danger is near.

Statistics show that the greater portion of deaths are accidental. For this reason safeguards should be thrown more about the tablet itself, and the package that contains it. That the "bichloride tablet" is deadly, can best be gleaned from the high percentage of fatalities incident to its absorption.

The records up to date show, that out of some 756 known cases, over 56 percent have proved fatal, while something less than 44 percent have recovered. These recoveries have resulted from immediate medical attention, and the small amount of the drug absorbed.

Much of this horror and sorrow has resulted from the heedless taking of these tablets by mistake for others of a dissimilar composition, which they closely re-

*Presented to Pennsylvania Pharmaceutical Association, June, 1913, in answer to Query No. 7. What new expedient can be devised to prevent poisoning through the mistaking of Corrosive Sublimate tablets for ordinary tablets used in medicine, numerous cases of such nature being reported from time to time?

semble in size, shape, color, and sometimes in taste. What seems to be the greatest evil in this connection is that these fatal mistakes usually take place in the evening, and at a time and under conditions in which the finger's touch is the only guiding element in locating what seems to be the desired headache tablet.

Therefore, innovations of any kind, no matter how ingenious they may be, providing they are not impracticable, should be received for serious consideration, if not for approbation. Even a slight increase in cost over the present expense should not deter the creation of new safeguards.

As possible methods of providing sufficient warning as to the dangerous character of bichloride tablets that will be suggestive both to the sense of sight and touch the writer submits the following propositions, together with specimens of tablets to illustrate the proposed new shapes.

First, a compressed tablet, shapened like that of a skull, with the contour of the shape greatly depressed at the points of indentation, colored with methylene blue, and stamped with the word "poison" in a different color, would be a step in the direction of greater safety.

Second, a tablet twice as long as its breadth, similar in form to that of a trapezoid, with serrated edges, colored with eosin, like samples submitted, marked "poison" in blue, and then wrapped in black tin foil, which has the skull and cross-bones pictured all over its surface, with the word, "poisonous" done in white.

Third, an irregular, grotesque shaped tablet, similar to that of a kidney, the midway or central depression markedly deep and wide, like samples submitted, colored with methyl green, with the word "poison" embossed upon its surface, and the tablet encased in a suitable flat gelatine capsule, just large enough to admit one tablet. This form would be an exceptional means of creating suspicion.

Samples of the last two suggestions are herewith submitted, the size of which is arbitrary, but should be large in order to insure greater safety.

By making the tablets a trifle larger than the ordinary size tablets, adults and especially children would find greater difficulty in swallowing them. By having them of irregular shape, with ragged edges, swallowing would not only be difficult, but they would be the more readily recognized in the dark by the finger's touch. Even in the daytime, its peculiar form would tend to create an association of ideas in connection with that of poison and death.

By wrapping them in appropriately colored and specially designed foil, or encasing them in suitably colored gelatin capsules, the mere act of removing the tablet from its wrapper would in a manner act as a stay of execution by psychological interference. In short, a feeling of suspicion would ensue, thereby acting as a warning before the fatal move is made.

As to colors, it is knowingly true, that the greens, blues, and reds are repugnant to most people, and are taken as indications of danger or poison. The color of the tablet itself would not only serve as a danger signal, but if dissolved in water, the solution also, owing to its color, would carry the same impression.

Before the machinery of the law begins to grind out ill-advised enactments, it would be well for the various pharmaceutical houses to enter into some form of understanding as to this vital question which is reaching alarming proportions.

By way of suggestion, the following would serve as a foundation to work upon:

1st. That no tablet be compressed, or massed into a gelatin capsule that contains more than 1-6 grain of corrosive sublimate (or some other agreed upon maximum amount) unless so made as to denote its potency.

2d. That no tablet be compressed that is colorless, round, ovoid, or oblong in shape, which contains dangerous amounts of corrosive sublimate.

3d. That separate and distinct packages be used for dispensing potent mercuric chloride tablets to the trades and the professions.

4th. That all mercuric tablets for external purposes, containing dangerous amounts of the drug, be colored with some form of soluble dye, one strongly suggestive of danger or poison, such colors as the greens, blues or reds.

5th. That all tablets of this type be oddly formed, marked with the word poison so as to make them easy of identification and differentiation, in the dark as well as the light, and be made large so as not to be easily swallowed.

6th. That these tablets be covered with some suitable covering like colored foil, or encased in gelatin capsules strikingly colored, and bearing the word poison all over its surface.

7th. That they be dispensed in bottles only, preferably odd in shape and of blue glass, with a label attached giving directions as to use and care in handling, printed in red.

8th. That aside from the directions as to use, the label also bear advice as to "first aid measures" that are considered effective, with the appellation—"POISON, For External Use Only—In case of Poisoning Send for a Physician At Once."

9th. That a separate label be affixed to each package on which is boldly printed the following—Not To Be Swallowed. Do Not Remove The Remainder Of These Tablets From This Package. Keep Bottle And Contents Away From All Medicines Used for Internal Purposes.

COFFIN-SHAPE FOR BICHLORIDE TABLETS.*

FRANKLIN M. APPLE, PHAR. D., PHILADELPHIA.

When carefully reading and studying this query one is impressed by the suggestive manner in which it has been worded, for the idea I have to offer for your consideration is largely the result of the query's phraseology.

You will observe that it suggests *a new expedient,* which is what you surely will find to be the basis of the suggestion I herewith offer.

The similarity in the weight, shape and general appearance of Corrosive Sublimate Tablets and Alkaline Antiseptic Tablets, and many headache tablets has

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been the cause for the sad accidents that have been reported from time to time, when the dangerous, poisonous corrosive sublimate tablets have been taken in mistake for tablets intended for internal administration.

It is unfortunate that we cannot educate the populace to the point of following the advice of Davy Crockett—"Be sure you're right, then go ahead," but we must take human nature as we find it exemplified in the majority of our fellowmen (and women) and endeavor to devise ways and means whereby they may be protected against their own negligence and carelessness—for who are in a better position to take such action than those of our profession, who are constantly in contact with these various drugs and their prepared forms for administration or application.

It is a known fact that the Tablets of Corrosive Sublimate are very easily procured, and are used to a very large extent in the home as an antiseptic, hence they are not looked upon as the dangerous agents that they really are in the hands of the careless and ignorant.

An attempt has been made by at least one manufacturing house to overcome the similarity of shape of the Corrosive Sublimate Tablets and all other tablets manufactured by them, and a container similar to the shape of the tablet has been used to designate their brand of these tablets; and the blue and the red colored sorts of these tablets are no stranger to the wide-awake druggist and to physicians.

This latter idea I heartily endorse, as the solutions of this powerful medicinal agent should always be colored—preferably red,—to suggest activity and danger.

When casting about for ideas wherewith to overcome the difficulty that confronts us I endeavored to bear in mind the fact that the best and most appropriate one must be as distinctive and suggestive as possible, so as to impress upon the populace as forcefully as possible the fact that danger surrounds the article in hand.

After a careful examination of various ideas that came to mind I decided that the one I now present for your inspection is the par-excellent one—one that cannot be mistaken for anything now upon the market, and one not likely to be imitated very closely for any purpose.

The shape of this tablet—coffin-like—certainly is distinctive and suggestive and one that can be made even more suggestive by preparing the dies so as to countersink the emblem of the *skull* and *crossbones* into the tablet upon one side and the word *poison* upon the reverse side of it.

These emblems and the word could be embossed upon the tablet if deemed more desirable and more effective.

Some such shape should be legislated into existence and the old-fashioned form should be made an illegal one for these tablets—in the interest of the public welfare.

I feel assured that the dangers that beset these valuable, when properly handled and used, tablets can be largely overcome by adopting the idea now before you for your discussion.

THE PHENOL COEFFICIENT METHOD OF TESTING DISINFECTANTS.*

JOSEPH W. ENGLAND, PH. M., PHILADELPHIA.

Ten years ago, S. Rideal and J. T. A. Walker (Journ. Roy. San. Inst., London, 1903, 424), devised a method for the bacteriological standardization of disinfectants, known as the Rideal-Walker Method. It is extensively used in England and the British colonies. Later, a modification of it was proposed in the London Lancet (Vol. 177, Nos. 4498, 4999 and 4500), known as the Lancet Method, and this was believed to be a distinct advance over the Rideal-Walker method. Still later a third modification was evolved by J. F. Anderson and T. B. McClintic, of the Hygienic Laboratory of the Public Health Service (Bulletin No. 82, April, 1912), known as the Hygienic Laboratory Method. This method has some of the features of the Rideal-Walker method as well as the Lancet Method, but also, important modifications. It is now being used by the Federal and state authorities in connection with the purchase of disinfectants, and has been officially adopted by some state boards of health.

The original method and its modifications consist in an attempt to measure the phenol-coefficient, or relative killing-power of disinfectants upon certain bacteria, under standard conditions, compared with phenol. Briefly stated, a coefficient is "a number or known quantity prefixed in algebra as a multiplier to a variable or an unknown quantity." The phenol or carbolic coefficient of a disinfectant is determined "by dividing the figure indicating the degree of dilution of the disinfectant that kills an organism in a given time, by that expressing the degree of dilution of the phenol or carbolic acid that kills the same organism, in the same time, under exactly similar conditions."

In determining the Rideal-Walker coefficient, the technical procedure is substantially as follows:

"Phenol solutions of known strength are used; cultures are grown in a standard medium, transplants being made every 24 hours; the loops used for all inoculations are of a standard size (about 4 mm. in diameter). Usually four dilutions of suitable strengths of the disinfectant to be used are made. Phenol controls of a suitable strength are also prepared. Five cc. of each of these dilutions are placed in sterile test tubes, to which are added at intervals of one-half minute a 24-hour broth culture of B. typhosus in the proportion of 1 drop of culture to each cubic centimeter of disinfectant used.

"At the end of two and a half minutes a loopful of each of the mixtures is inoculated into a test tube containing 5 cc. of standard broth, an interval of half a minute being thus allowed between taking the samples from the different dilutions. This is repeated at 5, 7½, 10, 12½ and 15 minutes. The broth tubes, after being incubated at 37° C. for 48 hours, are examined for growth.

"The results of the examination are then noted, and if suitable, comparative strengths of the disinfectant and phenol have been selected, the phenol coefficient is determined as above stated."

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Although the toxic power of phenol is taken as the unit of comparison, it is influenced, to a certain extent, by conditions, or in other words, it is not a constant unit.

The conditions that influence results are: "Organisms to be acted upon; number of micro-organisms and amount of organic matter to be added; strength and number of dilutions; time during which the distinfectant is allowed to act, and temperature." (Tr. B. P. C. vide Journ. A. Ph. A., 1912, 637).

By this method of testing disinfectants, no arbitrary standard of phenol toxicity upon bacteria is assumed, but the killing-power of a disinfectant upon bacteria is compared with the killing-power of phenol upon the same bacteria, under the same conditions, so that if the bacteria are of a "weak strain" or a "strong strain," the results of the test are comparative, because they have been made under exactly analogous conditions.

If, however, a "weak strain" of bacteria be used as a standard for a series of tests, and a "strong strain" for another series, the results of the test as to the coefficients will be somewhat different. But such variations are equalized by dividing the figure representing the percentage strength of the weakest killing solution of the phenol, by the figure representing the percentage strength of the weakest killing solution of the disinfectant tested, both at 2½ and at 15, or 30 minutes. The mean resulting figure is assumed to be the true coefficient.

The nature of the test-organism has a great deal to do with the results obtained. With different species of organisms the coefficients obtained may vary as much as 300 percent. Walker and Rideal and Anderson and McClintic use the typhoid bacillus, the London Lancet the colon bacillus, and the Department of Health of the State of Maryland (which has a law directing that the labels of disinfectants shall give their coefficient value) specifies the use of either the typhoid or colon bacillus; though it is but fair to state that Charles Caspari, Jr., State Food and Drug Commissioner of Maryland, advises the writer that "in view of the fact that investigations during the past year have shown the great desirability of conforming the test to one specific bacillus, I think that a change in our regulations should and will be made very shortly."

The method originally devised, did not specify the use of organic matter in making the test, but it has been modified so that the test may be made with or without organic matter. Various forms of organic matter have been tried; peptone and gelatin are recommended by Anderson and McClintic.

The test *without* organic matter yields higher results than *with* organic matter. Thus, the phenol coefficient of Phenol Liquid (U. S. P. 1890), *without* organic matter is 177, and *with* organic matter is 176; of Crude Carbolic Acid (Navy Department) is 2.75 and 2.63, of Cresol is 2.90 and 1.75, and of Compound Solution of Cresol is 3.00 and 1.87, respectively.

The phenol coefficient method of testing disinfectants apparently marks a distinct step forward in methods of testing disinfectants, but while it has important possibilities, it has its limitations.

Woodward and Kingsett state that: "While the phenol coefficient method may serve to determine the relative germicidal value of similarly prepared preparations of a coal tar nature, it is not applicable for ascertaining the real or relative

values of other disinfectants of a different chemical nature." (Woodward and Kingsett, Trans. B. P. C., vide Journ. A. Ph. A. 1912, 637.)

During the past year, a number of bills have been introduced into different State legislatures, not only for standardizing disinfectants by the Anderson and McClintic method, but also for standardizing by the same method, deodorants, antiseptics and germicides; and also providing that the labels of such must be marked with the phenol coefficient in every case, and failure to do so shall be considered a misdemeanor subject to fine for each offense. In every case, fortunately, the bills have been killed or vetoed, and the reasons are obvious. It was assumed that these four classes of products could all be standardized by the phenol coefficient method, and such is not the case.

A disinfectant is a substance that destroys the cause of infection, such as phenol and compounds of a similar type.

A deodorant is a substance that destroys the odors or effects of bacterial action. It is not necessarily a disinfectant. Thus, charcoal is a deodorant, but it does not destroy bacteria, and has no coefficient value. Sulphur is a deodorant, but it is not a disinfectant until burned and converted into sulphurous acid gas.

Formaldehyde is both a deodorant and a disinfectant, while corrosive sublimate is a powerful germicide but not a deodorant.

A germicide is a substance that kills germs. It is synonymous in meaning with disinfectant.

An antiseptic is a substance that inhibits or prevents the growth and development of bacteria, but it does not kill bacteria, and can have, therefore, no coefficient value. Saturated solutions of salt or sugar will preserve meat or vegetable substances from decomposition and decay, that is they are antiseptic in action, but they are not germicidal.

The class of antiseptics embraces a long list of substances which are of material importance in practical medicine and surgery. There are many conditions of the human body in which it is desirable to restrain or prevent bacterial action, and yet in which the use of germicides and disinfectants are contradicted by reason of their corrosive action. The list of antiseptics embraces such commonly used substances as Boric Acid, Iodoform, Bismuth Subiodide, Naphthalene, Salol, Menthol, Thymol, Guaiacol, Acetanilide, etc.

Many antiseptics are insoluble in water and cannot be tested against organisms until made soluble, and even then if such a test could be made, it would be valueless, because it would not represent the body-conditions under which such antiseptics act. Iodoform is a striking example. Iodoform is of recognized value in the treatment of wounds. It is insoluble in water. Hehn and Rosving (Chem. News, 55), state that "sterilized iodoform jelly, when inculcated with microorganisms, was found to be full of them, all growing freely on the third day." Bouillat (Zeitsch f praktisch Chem. 25, 300), finds that 10 percent of iodoform does not check putrefactive change in pancreas. But it is an unquestioned clinical fact that iodoform applied to a body-wound prevents putrefaction and promotes granulation and cicatrization, and this is probably because the wound-secretions decompose the iodoform into iodine products that cause sterility. And what is true of iodoform, as an antiseptic, in the treatment of wounds, is probably true of other insoluble antiseptics.

Boric acid is a most widely used antiseptic for the treatment of the eye conditions, and yet its solution (1 to 100) does not kill typhoid bacilli even after 15 minutes.

Hydrogen Peroxide is one of the most largely used antiseptics, and yet its germicidial powers are so weak, compared with phenol, that the determination of its coefficient is admittedly impracticable. (Bulletin No. 82, Hygienic Laboratory, 1912, 65).

The Hygienic Laboratory Method of standardizing disinfectants, with and without organic matter, has been adopted by the Council of Pharmacy and Chemistry of the American Medical Association, and it is very probable that the use of this method will become general in the United States, and displace other methods. It is not a perfect method and is not claimed to be, but its use within certain limitations (that is, applied only to disinfectants of the coal tar group), will do much to standardize a very variable group of commercial products.

THE EFFECT OF PARAFORMALDEHYDE, PHENOL AND CREOSOTE ON THE DIGESTIVE ACTION OF PEPSIN, PANCREATIN AND DIASTASE.*

L. H. GLICKMAN AND CHAS. E. VANDERKLEED.

Paraform, the crystallized, polymeric form of formaldehyde, has for a considerable number of years been to a slight extent employed in doses of from 5 to 15 grains as an intestinal antiseptic. Owing to the readiness with which formaldehyde is liberated from paraform, and the well-known disturbing action of this vigorous gas on digestive processes and its tendency to harden tissues and render protein substances insoluble, the use of paraform in these heroic doses has been limited.

Our interest was recently directed to a more careful study of effect of paraform on the digestive ferments by a suggestion from Dr. Walter J. Freeman of Philadelphia, who wished to employ this drug in small doses in the form of lozenges or pastilles. Some tablets were prepared, each containing Paraform ¼ grain, Sodium Bicarbonate 2½ grains, Talcum 1 grain, Sugar q. s. 20 grains, Oil of Peppermint q. s. to flavor, and tests were then made to determine what interfering effect, if any, these would have on the artificial digestion of proteids and starch.

As we wished to have something with which to compare the paraform, we also ran tests in which the effects of phenol and of creosote were studied. In order to make the experiments comparable as nearly as possible to its use in the case of patients under normal food conditions, we considered the average amount of egg albumin taken at one time as a "food dose" to be that contained in two eggs, or about 30 grams. In the tests with starch, 22.5 to 24 grams of dried starch were taken as normal food dose. The amounts of paraform, phenol

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and creosote to be taken as one dose, were considered to be respectively, ¼ grain, 1 grain and 3 minims. All tests were based upon these ratios between food and medicament.

EFFECTS UPON PEPSIN.

Digestion tests were run in strict accord with the U. S. P. method for testing pepsin. A blank test run without pepsin or added substance other than egg albumin and acid solution gave the volume of egg albumin (40 cc.) upon which to base percentages. A second test with added pepsin showed the latter to be strictly 1-3000 and to leave, therefore, 1 cc. of undigested albumin. The following table shows these results, together with the results obtained when paraform, phenol and creosote were added in the proportions respectively of ¼ grain, 1 grain and 3 minims to 30 gm. of coagulated egg albumin.

	Contents.	Amount Egg Alb. left.	Decrease in Activity of Pepsin.
No. 1	10 gm. egg, 35 cc. Acid Sol.	40 cc.	0
No. 2	10 gm. egg, 35 cc. Acid Sol. 5 cc. Pepsin Sol.	1 cc.	0
No. 3	10 gm. egg, 35 cc. Acid Sol. 5 cc. Pepsin Sol. 1-12 gr. Paraform	1 cc.	0
No. 4	10 gm. egg, 35 cc. Acid Sol. 5 cc. Pepsin Sol. 1-3 gr. Phenol	2 cc.	5%
No. 5	10 gm. egg, 35 cc. Acid Sol. 5 cc. Pepsin Sol. 1 min. Creosote	4 cc.	10%

The above tests show that a normal dose of Paraform (¼ gr.) has no inhibiting effect upon the digestive action of Pepsin, that a normal dose of Phenol (1 gr.) has a slight inhibiting effect, and that a normal dose of Creosote (3 min.) has more inhibiting effect than phenol.

To find out how much three times the normal dose of Paraform, Phenol and Creosote would inhibit the activity of the Pepsin, the following experiments were conducted:

	Contents.	Amount Egg Alb. left.	Decrease in Activity of Pepsin.
No. 1	10 gm. egg, 35 cc. Acid Sol.	43 cc.	0
No. 2	10 gm. egg, 35 cc. Acid Sol. 5 cc. Pepsin Sol.	1 cc.	0
No. 3	10 gm. egg, 35 cc. Acid Sol. 5 cc. Pepsin Sol. 1-4 gr. Paraform	24 cc.	55.8%*
No. 4	10 gm. egg, 35 cc. Acid Sol. 5 cc. Pepsin Sol. 1 gr. Phenol	3 cc.	7%
No. 5	10 gm. egg, 35 cc. Acid Sol. 5 cc. Pepsin Sol. 3 min. Creosote	29 cc.	67%

* As the Paraform tablets contained sodium bicarbonate it was believed that the large amount of egg albumin left was due to the fact that the acid was partly neutralized by the bicarbonate. A new series of tests were made, and the tablet neutralized with 0.3 percent Hydrochloric Acid before adding it to the Pepsin, Acid Sol. and Egg Albumin mixture. After 2½ hours there remained 12 cc. egg albumin or 28 percent decrease in activity of Pepsin due to three times the normal dose of Paraform, exclusive of the inhibiting effect of the bicarbonate in the tablet.

EFFECT UPON PANCREATIN.

Digestion tests made with starch in accordance with the U. S. P. method showed that Paraform, Phenol and Creosote have no inhibiting effect upon the

converting power of the Pancreatin even if the dose is increased to three times the medicinal dose. 22.5 gm. of starch was taken as a normal dose in the tests with Pancreatin. The following table shows the effect of the "normal" doses of paraform, phenol and creosote:

	Contents.	Color.	Decrease in Activity of Pancreatin.
No. 1	7.5 gm. starch, 0.3 gm. Pancreatin.....	Wine	0
No. 2	7.5 gm. starch, 0.3 gm. Pancreatin, 1-12 gr. Paraform.....	Wine	0
No. 3	7.5 gm. starch, 0.3 gm. Pancreatin, 1-3 gr. Phenol.....	Wine	0
No. 4	7.5 gm. starch, 0.3 gm. Pancreatin, 1 min. Creosote.....	Wine	0

The next table shows that even 3 times these "normal" doses was without effect upon the conversion of starch.

	Contents.	Color.	Decrease in Activity of Pancreatin.
No. 1	7.5 gm. starch, 0.3 gm. Pancreatin.....	Wine	0
No. 2	7.5 gm. starch, 0.3 gm. Pancreatin, 1-4 gr. Paraform.....	Wine	0
No. 3	7.5 gm. starch, 0.3 gm. Pancreatin, 1 gr. Phenol.....	Wine	0
No. 4	7.5 gm. starch, 0.3 gm. Pancreatin, 3 min. Creosote.....	Wine	0

EPPECT UPON DIASTASE.

About 24 gm. of starch was taken as a normal dose, in tests with Diastase.

	Contents.	End of 1 hr.	End of 1¼ hrs.	End of 1½ hrs.	End of 2 hrs.	Decrease in Activity of Diastase.
No. 1	16 gm. starch, 0.064 gm. Diastase,	Blue	Pale Blue	Pale Purple	Wine	0
No. 2	16 gm. starch, 0.064 gm. Diastase, 2-4 gr. Paraform.....	Very Blue	Blue	Blue	Pale Blue	Approx. 10%
No. 3	16 gm. starch, 0.064 gm. Diastase, 2 grs. Phenol.....	Blue	Pale Purple	Wine	Pale Wine	0
No. 4	16 gm. starch, 0.064 gm. Diastase, 6 min. Creosote.....	Pale Blue	Pale Purple	Wine	Pale Wine	0

The above table shows that Phenol and Creosote, in three times their normal doses, have no inhibiting effect upon Diastase. In the case of Paraform there is a slight inhibiting effect amounting approximately to 10 percent of the activity of the Diastase.

SUMMARY.

Paraform. A normal dose of paraform (¼ grain) had no inhibiting effect upon the action of either pepsin, pancreatin or diastase.

Three times the normal dose of paraform (¾ grain) had an inhibiting effect upon the action of pepsin amounting to about 28 percent and on diastase amounting to about 10 percent.

Three times the normal dose of paraform (¾ grain) had no inhibiting effect upon the action of pancreatin.

Phenol. A normal dose of phenol (1 grain) had an inhibiting effect on pepsin amounting to about 5 percent, while three times the normal dose seemed to increase the inhibiting effect only to about 7 percent.

Three times the normal dose of phenol (3 grains) had no inhibiting effect either upon pancreatin or diastase.

Creosote. A normal dose of creosote (3 minims) had an inhibiting effect upon pepsin amounting to about 10 percent, while three times the normal dose of creosote (9 minims) increased the inhibiting effect on pepsin to about 67 percent.

Three times the normal dose of creosote (9 minims) seemed to have no inhibiting effect either upon pancreatin or diastase.

It must be remembered, of course, that all of these experiments were carried out as laboratory experiments in glass and it does not necessarily follow that paraform administered either to healthy or sick patients, would be without disturbing influences on digestion.

ANALYTICAL LABORATORY OF H. K. MUIFORD COMPANY, June 19, 1913.

EXAMINATION OF TIN FOILS FOR ARSENIC, AND A MODIFIED GUTZEIT'S TEST.*

A. F. JUDD, PHAR. D., PITTSBURGH.

I submit the following in answer to query No. 5, being data on a few tin foils which were obtained from several sources, i. e., Chocolate Candy, Gum, Tobacco, etc.

The work was carried out by first effecting solution by means of aqua regia, dispelling excess of acid, acidulating with dilute hydrochloric acid, and warming until a clear solution was obtained, except in the case of the so-called lead foils.

The arsenic was then determined qualitatively by means of a Marsh Arsenic Tube, and checked by a proposed modified Gutzeit's Method, both methods being continued one hour.

Below are given the foils in two groups, first, those which are practically pure tin foils; second, those which show a heavy lead reaction, and herein designated as lead foils.

Tin Foils—	
Fleishman's Yeast	Arsenic absent
Baker's Bitter Chocolate	Arsenic absent
Wittman's Candy "Sampler"	Arsenic absent
Wittman's Candy "Sampler," gilded	Arsenic absent
Cream Cheese, Shefford Cheese Co	Arsenic absent
Mulford's Phenolthalein Chocolates	Arsenic absent
Peter's Sweet Milk Chocolate	Arsenic trace
Peter's Sweet Milk Chocolate, 2 specimens	Arsenic absent
Hershey's Sweet Milk Chocolate	Arsenic trace
Bryn Mawr Chocolate, green foil	Arsenic absent
Bryn Mawr Chocolate, lavender foil	Arsenic absent
Wilbur's Chocolates	Arsenic absent
Fleishman's Yeast Spec., No. 2	Arsenic absent
Lead Foil—	
Johnson's Bitter Chocolates	Arsenic absent
Beechnut Chewing Gum	Arsenic absent
Piper Heidseck Chewing Tobacco	Arsenic absent
Beeman's Chewing Gum	Arsenic absent
Fatima Cigarettes	Arsenic present
Five Brothers Tobacco	Arsenic absent

* Presented to the Pennsylvania Pharmaceutical Association, July, 1913.

It would seem from the above data that the tin foils are generally of a nearly free arsenic nature.

The foils from Peter's Chocolate show a variation, in that one shows traces of arsenic, whereas it is absent in the other specimen. The specimens were obtained from different sources, and undoubtedly were from different stocks of foil.

Owing to the simplicity of the following method for the qualitative determination of arsenic and its apparent delicacy, it would seem strange to me that it had not been tried before, but I have been unable to find it mentioned in any available literature on the subject of arsenic.

In carrying out the Marsh Test to guard against the possible escape of undecomposed arsenic, the gas was lead into a weak silver nitrate solution and each specimen which contained arsenic caused a precipitation in the solution, therefore it occurred to me to try out the following method. It is simple, easily and readily carried out and seems very delicate.

It is based upon Gutzeit's well-known arsenic test. The apparatus consists of a generator, such as is used in the Marsh apparatus, and a 100 cc. Erlenmeyer flask containing 50 cc. of solution of silver nitrate, another containing 50 cc. of an alkaline solution of lead acetate.

The solutions are prepared as follows:

1. Lead Solution.

Lead acetate	0.5	
Sol. NaOH 5 percent	1000.	cc.

2. Solution of Silver Nitrate, centinormal.

The alkaline solution of lead acetate is intended to absorb any hydrogen sulphide which may be generating with the hydrogen; it is therefore placed between the generating flask and the one containing the silver solution, which will take up any arsene formed.

The following experiments may show the adaptability of this modified method.

Hydrogen produced from arsenic free zinc and sulphuric acid, run through the alkaline lead acetate, then through the silver nitrate, showed nothing in either flask, or at most only a slight darkening in the delivery tube of the last, or silver nitrate flask.

When 0.0072 arsenic, calculated as the element, was added, a very heavy and voluminous precipitation occurs in the silver nitrate flask.

With 0.00072 a heavy precipitate was still formed.

With 0.000072 there is still a very pronounced precipitation not only in the tube, but also throughout the solution of silver nitrate.

Lack of time prevented further work along this line, and also the investigation of the factors which might interfere, with one exception, the presence of hydrogen sulphide.

Ferrous sulphide was added to the apparatus generating the hydrogen, the solution containing the alkaline lead acetate was strongly darkened, while the silver nitrate was not affected.

Next ferrous sulphide and arsenic trioxide were added, with a darkening and precipitation in both flasks.

If this method is as reliable as it appears, it gives a qualitative method which is

both simple and easy, inasmuch as it does not require the same amount of attention that the Marsh test requires. It also lacks the danger of explosion and injury attendant on the Marsh test.

The extreme delicacy of this reaction might be considered an objection for the reduction of the silver nitrate with the gas delivered from nearly arsenic-free zinc and sulphuric acid; but this is never as pronounced as when the minutest amount of arsenic is present.

At most the reagents give a coloration at the end of the delivery tube, but never in the flask nor throughout the solution.

It seems best to run the reagents for ten or fifteen minutes before introducing the suspected substance, and noting the difference, if any, which may occur.

SUMMARY OF DRUG EXAMINATION RESULTS.*

J. ED. BREWER.

The following substances were examined during the past twelve months in the analytical department of Smith, Kline & French Co. Instances of adulterated and inferior drugs are given, as well as comparisons between drugs of medicinal and so-called garden variety:

Acacia. Three samples of acacia siftings were examined which yielded ash in excess of the U. S. P. limit of 4 percent.

Senna. Two samples of senna siftings yielded 16.22 percent and 25.25 percent of ash respectively.

The abnormal ash in this case, as well as in the acacia siftings, is quite probably due to the fact that when the drug is sifted the fine foreign material, such as sand, pebbles, etc., from the entire drug is left almost wholly in the siftings.

Some trouble was experienced in obtaining check results in determining the ash of senna siftings, due to the presence of pebbles of considerable size. This difficulty was overcome by reducing the entire sample to a No. 40 powder.

Aloin. Three samples of aloin were examined, none of which answered all of the U. S. P. requirements. Sample No. 1 contained 2.54 percent of water insoluble material, 21 percent of alcohol insoluble material, and left a residue of 1.2 percent upon ignition. Sample No. 2 contained 0.3 percent of water insoluble material, 22.9 percent of alcohol insoluble material, and left a residue of 0.56 percent upon ignition. Sample No. 3 was not soluble in 55 parts of acetone and left a residue of 0.4 percent upon ignition.

Considerable difficulty has been experienced in obtaining aloin of U. S. P. quality.

Cudbear. One sample of powdered cudbear was examined, which yielded 60.6 percent ash, 95.8 percent of which was sodium chloride.

Sarsaparilla Root. One sample of sarsaparilla root siftings yielded 44.49 percent of ash.

Spigelia. Two samples of spigelia were examined. One of the powdered

* Presented to the Pennsylvania Pharmaceutical Association, June, 1913.

drug yielded 32.65 percent of ash and 25.4 percent of hydrochloric acid insoluble ash.

The other, of the whole root, gave 41.78 percent of ash and 37.55 percent of hydrochloric acid insoluble ash. The high ash content of this drug is probably due to the earth which adheres to the roots when they are gathered.

Anise Seed. Five samples of anise seed were examined, which contained 1.22 percent, 2.13 percent, 3.93 percent, 4.09 percent and 5.87 percent, respectively, of foreign material such as stems, sticks, dirt and considerable coriander seed.

Cardamom. Four samples of powdered cardamom were examined, none of which answered the U. S. P. requirement of not more than 4% ash. Two of these samples were deficient in the volatile oil content as they did not contain quite 1% of volatile oil.

One sample was composed of the powdered whole fruit which partially accounted for its high ash and low volatile oil content.

Guaiac. One sample of guaiac contained 34.1% of alcohol insoluble material and yielded an ash of 4.8%.

Jalap. Five samples of jalap were all of U. S. P. quality. No trouble has been experienced in obtaining jalap which answers the U. S. P. requirements, but it has been a very difficult matter to obtain two samples from the same lot which will assay the same. This difficulty is apparently caused by a great variation in the resin content of individual tubers.

Belladonna Leaves. Of twelve samples of belladonna leaves examined only one contained less than the U. S. P. requirement of mydriatic alkaloids. One sample was found to contain several scopola leaves and these samples were of very poor physical appearance due to a large proportion of thick stems present.

Nux Vomica. Three samples of nux vomica were examined. They contained 0.95%, 1.25% and 1.06% of strychnine respectively.

Hyoscyamus. Seven samples of hyoscyamus leaves contained from 0.034% to 0.066% of mydriatic alkaloids. It is almost impossible to obtain hyoscyamus leaves which will answer the U. S. P. requirement of not less than 0.08% of mydriatic alkaloids.

American Cannabis. The most active of the four samples examined had only about 4-5 of the physiological activity of a standard indian cannabis.

Santonica. Three samples of santonica were examined, two of which contained only the slightest trace of santonin and the other contained 1.93%. The National Standard Dispensatory states "Santonica should contain from 2.5% to 3.5% of santonin; yet the commercial article rarely yields more than 2%, often less."

As the above results would indicate, there is a considerable amount of santonica on the market which is absolutely worthless in so much as its anthelmintic action is concerned.

In the estimation of santonin in Santonica by Thaeter's Method as given in "Archiv. der Pharmacie," Vol. 238, page 383, precautions should be taken so that resins or a mixture of resins and santonin are not weighed as pure santonin.

Manaca. Two samples were examined, the one proved to be a mixture of about equal parts of Manaca and some foreign root and the other was composed entirely of the foreign root, the identity of which we have not ascertained.

The chief points of differentiation of these two roots has been discussed by

Mr. F. A. Miller in Vol. 2, No. 5, page 594 of "The Journal of the American Pharmaceutical Association."

Parsley Seed. One sample of medicinal parsley seed was compared with four samples of garden parsley seed and they were found to be identical in microscopical structure, germinating power and apiol content.

The medicinal parsley seed yielded 21.76% of acetone and 6.7% of alcohol soluble extract. The garden parsley seed yielded 21.04% of acetone and 5.2% of alcohol soluble extract.

Coca Leaves. As usual no trouble was experienced in obtaining coca leaves of U. S. P. quality as the one sample which was examined yielded 1.18% of ether-soluble alkaloids.

ANALYTICAL DEPARTMENT OF SMITH, KLINE AND FRENCH COMPANY.

REPORT OF P. P. A. COMMITTEE ON DRUG MARKET.*

Owing to the unusually heavy demand upon the time of your Chairman and his co-workers on the Committee on Drug Market during the past winter and spring, the report which we have to offer this year has been gathered from a somewhat more limited field than usual. We trust, however, that it will be found fairly to outline the quality of drug products, as offered in the Pennsylvania market during the past year.

Not many startling cases of willful adulteration have come to our notice, but the vagaries of climate and season have as usual played their part in influencing the quality of the vegetable drugs on the market,—tending to prove that our U. S. P. standards for the vegetable drugs, must of necessity be largely arbitrary and that it is a very difficult matter for the U. S. P. Revision Committee to fix minimum standards for drugs that are reasonably high, and at the same time are such that at some time or other during the ten years, more or less, through which they are official, are not too high because of seasonal conditions.

Nevertheless, your Committee most heartily approves of the stand which the Revision Committee has taken in opposition to the proposition to withdraw all standards for the drugs themselves, applying restrictions only to the preparations of the drugs. Such a course would result, we believe, in tending to make the United States the dumping ground for the poorer quality of all foreign drugs, just as it used to be the dumping ground,—but thanks to our efficient customs officials, no longer is, for poor quality asafœtida. We believe in maintaining reasonably high standards, and if, as occasionally happens, a drug cannot be secured of U. S. P. strength, the difficulty can be overcome by having the Treasury Department temporarily suspend its rules or lower its standard until the poor season shall have passed,—as has already been satisfactorily done in the cases of Hyoscyamus and Asafœtida.

The following specific comments on drugs and chemicals are based upon records taken from the analytic laboratory files of the Smith, Kline & French Co. and the H. K. Mulford Co., from June 1, 1912, to June 1, 1913:

Acetic Acid, U. S. P. Of the seven samples examined five answered the U. S.

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* Presented to Pennsylvania Pharmaceutical Association, June, 1913.

P. requirements in every respect. The other two were satisfactory with the exception that they contained an abnormal amount of empyreumatic substances.—Reported by J. G. Roberts.

Alcohol, U. S. P. Of 75 lots examined, all tested 95% or over, and it was not necessary to reject any for any cause.—Reported by J. C. McCaffrey.

Alcohol (distilled from cane). This lot was slightly under strength and had a molasses-like odor which rendered it unfit for many pharmaceutical purposes. It did not answer the U. S. P. tests for the absence of amyl alcohol, non-volatile impurities and carbonizable or organic impurities.—Reported by J. G. Roberts.

Aloes, U. S. P. Of 15 samples examined, 10 contained less and 5 more than the 10% of moisture allowed by the U. S. P., the highest testing 13.2% and the lowest 6.9%. None of the samples gave more than 2 gm. of insoluble residue on applying the U. S. P. boiling water test, but in no case could the resulting solutions be said to be "nearly clear" as the U. S. P. directs. Neither were "nearly clear" solutions in alcohol obtained in the test for "absence of gum, dextrin and inorganic impurities," thus showing the need for an improvement in the new pharmacopœia of the wording of these requirements. Such statements as "nearly clear" are not sufficiently definite for a book of standards.—Reported by Geo. E. E'we.

Aloin, U. S. P. All of the seven samples gave residues upon ignition, ranging from 0.31% to 1.09% (U. S. P. requires no residue). All of the samples were faintly acid to litmus except one which was neutral. The lowest alcohol solubility was 98.5%. All of the samples dissolved in water to a faintly cloudy solution. All this shows that the present U. S. P. requirements for a medicinally satisfactory aloin are probably a little unnecessarily severe.—Reported by George E. E'we.

Two samples were examined and were found to be insufficiently soluble in alcohol or acetone and yielded a residue upon ignition. One sample was also not sufficiently soluble in water and gave a yellow color when shaken with petroleum ether.—Reported by J. G. Roberts.

Almond Meal from Bitter Almonds. Good examples of the substitution that is still practiced in spite of Federal, State and private supervision of food and drug products are shown by the fact that four samples of what was claimed to be Almond Meal was found to be Apricot Kernel meal.

Because of the fact that the kernels had been blanched and deprived of their outer covering before grinding we were unable to state positively by microscopic means whether these samples were genuine or not. Therefore we extracted the oil and by an examination of it we were able to determine that the samples were not Bitter Almond Meal.

An average of three samples submitted by one dealer yielded 19.9% of oil. The sample from another dealer yielded 19.4%. Wiley, in his book, "Food and Drugs," states that Almond Meal should yield about 40% of oil.

The acid number of each sample was within the limits for almond oil and the saponification number conformed to the U. S. P. standards for almond oil. But no evidence of substitutions could be established from these figures as the acid number and the saponification number of almond oil and apricot kernel oil are almost identical. The most conclusive evidence that the extracted material was

not almond oil was obtained from the iodine number which was 107 in one case and 108 in the other. This is beyond the U. S. P. limits of 95—100 for almond oil and is very close to the maximum of 108 for apricot and 109 for peach kernel oils.

In view of the fact that none of these samples responded to Bieber's test for almond oil and also because of the high iodine number and low oil content we concluded that these samples were not as represented and were probably ground from apricot kernels.—Reported by J. G. Roberts.

Alum Exsiccated, U. S. P. The moisture in 13 samples averaged 5.00% and ranged from 2.6% to 9.5%. The maximum allowed by the U. S. P. is 1%. The fact that dried alum is exceedingly hygroscopic accounts for the slight excess of moisture, but shows the necessity for being on the lookout to avoid paying for water when dry or nearly dry product is wanted. Stocks are not the only commodities that are occasionally "watered." Reported by J. C. McCaffrey.

Ammonium Iodide, U. S. P. No trouble due to decomposition was experienced with the lots examined during the past year. All of the samples examined were normal in color and remained permanent.—Reported by J. G. Roberts.

Ammonia Water, 10% U. S. P. Of 27 samples examined, 3 were below 10%, the lowest being 9.6%, 23 were above 10%, running up to 11.0%, and one was exceptionally high, running 13.4%.—Reported by Geo. E. E'we.

Ammonia Water, 26% U. S. P. Of 10 samples examined, 6 were above and 4 below standard, ranging from 25.9%-29.5%.—Reported by Geo. E. E'we.

Aniline Colors. All of the samples examined were free from arsenic by the Modified Gutzeit test, using 0.5 gm. samples; contained traces of iron but no other heavy metals by U. S. P. time limit test, using 0.5 gm. samples. One sample contained a large quantity of granular sodium chloride which may have been an adulterant, but more likely was employed by the manufacturer to render his product uniform in coloring power.

The Food and Drugs Act Regulations limit the use of aniline colors in food products to a certain list of approved colors given in Food Inspection Decision No. 76, but place no restrictions upon aniline colors used in medicines other than that they must not contain arsenic, zinc, or other harmful or poisonous constituents.—Reported by C. E. Vanderkleed.

Annatto. One sample was examined which yielded 21% of ash. This ash was principally sodium chloride which, according to some authorities, is added to intensify the color. It seems to be the general custom to do this as the samples reported by various operators all yield a high amount of ash which is practically all soluble in water.—Reported by J. G. Roberts.

Anthraquinone Green. In order to determine if this preparation contained abnormal amounts of arsenic it was subjected to Zehner's test which indicated a trace. This result was then confirmed with the Magnesium Ammonium Arsenate precipitation method given in Circular No. 102, published by the U. S. Department of Agriculture. Five parts per million of arsenic (As) was found with this method.—Reported by J. G. Roberts.

Apiol (Fluid Green). The specific gravity at 25° of three samples examined ranged from 0.986 to 1.004. All of the samples gave a turbid solution with olive oil and were miscible in all proportions with Chloroform, Alcohol and

Ether. But upon standing over night a flocculent precipitate was observed in each case.—Reported by J. G. Roberts.

Arsenic Trioxide, U. S. P. Of 8 samples examined, 2 were slightly below the required 99.8%, assaying 99.2 and 99.4% respectively.—Reported by Fritz Heidlberg.

Asafoetida, U. S. P. There does not seem to be any difficulty whatever in obtaining Gum Asafœtida that conforms to the U. S. P. requirements. The alcohol soluble portion is usually above 65% and ranged from 64.5% to 82.33%. The ash content is also well below the maximum amount permitted by the U. S. P. The highest amount of ash that we obtained on 13 samples was 11.99% and the lowest 2.91%.

The powdered asafœtida has also improved in quality. Owing to improved methods in drying it is now possible to get powdered asafœtida containing 60% to 65% of alcohol soluble matter instead of 40—50% as formerly. This powder may be a little darker in color than formerly supplied, but it is of better quality.

In spite of the general improvement in quality of Gum Asafœtida there is no doubt that good quality asafœtida has been refused admittance to the country on account of the enforcement by the Federal Government of the lead number standard. There has been considerable discussion of this subject and the concensus of opinion, both in this country and abroad, is that the government standard of not less than 200 is too drastic. A paper by Harrison and Self read before the London branch of the Pharmaceutical Society of Great Britain contains the results obtained on 37 samples of Asafœtida which the authors stated they had every reason to believe were genuine. Only four of these samples gave lead numbers above 200. Twenty-nine gave lead numbers ranging from 102—175. The remaining four gave the following numbers: 95, 59, 57 and 18. Two samples examined in the Analytical Department of Smith, Kline & French Co. gave lead numbers of 142 and 216. The source of these samples is not known, as they were obtained through a brokerage house.—Reported by J. G. Roberts.

Results on Asafœtida obtained in the H. K. Mulford Company laboratories were not so satisfactory as those reported by Mr. Roberts, but we attribute a part of the trouble to difficulty in sampling. We have recently installed a new grinding machine for gum samples made by Werner & Pfleiderer Co., Saginaw, Mich. This little machine is built on the lines of the dough-mixer and will grind a two-pound sample, organic and mineral matter alike, to a thoroughly uniform pulp in a few minutes.

Of 17 samples examined, only 8 exceeded U. S. P. requirements in alcohol-soluble matter, varying from 50 to 75.7%—while the other 9 ranged from 22.9 to 45.8%. In ash, only 7 ran under the U. S. P. limit of 15%, the other 10 running from 18.7 to 68%.—Reported by Vanderkleed & E'we.

Balsam of Fir. See paper by J. G. Roberts.

Balsam of Peru, U. S. P. Owing to the disposition in some quarters to substitute an artificial for a genuine balsam, it has become necessary to exercise the greatest precaution in purchasing and examining this product. It is claimed that the fictitious product conforms to all the U. S. P. requirements,—hence it cannot be taken for granted that because a balsam answers the U. S. P. requirements, it is a genuine article.

Two samples were examined and both gave negative results when subjected to various tests for the presence of synthetic balsams. But neither of them answer all the U. S. P. requirements. In fact we have been informed that the genuine balsam does not as a rule conform to the requirements of the U. S. P. This statement seems to be true as evidenced by the results obtained on these two lots. Both samples contained an excess of acid resins according to the U. S. P. test and one lot had a specific gravity of 1.155 at 25° C. The U. S. P. limits are from 1.140 to 1.150.

We have been informed from reliable sources that the specific gravity of a genuine Balsam of Peru usually ranges from 1.13 to 1.16; that the cinnamein content is between 50% and 60% and that it should require 2 to 3 cc. of half normal alcoholic potassium hydroxide solution for neutralization instead of not more than 2 cc. as specified by the U. S. P.—Reported by J. G. Roberts.

Balsam of Tolu, U. S. P. One lot was considered unsatisfactory because it gave indications of the presence of unknown foreign resins or exhausted balsam when subjected to a test given in the British Pharmacopœia. Sample had a dark reddish brown color.—Reported by J. G. Roberts.

Belladonna Stems. A sample assayed 0.253% mydriatic alkaloids. This sample is of academic interest only, as it could not legitimately be used for the manufacture of belladonna preparations.—Reported by W. H. Orrick.

Benzoin, U. S. P. The 39 samples examined averaged 73.5% alcohol soluble matter, ranging from 49.5% to 94.0%. The U. S. P. makes the rather indefinite requirement that Benzoin shall be "almost wholly soluble" in 5 parts of warm alcohol. (The proposed test for the new Pharmacopœia requires a 75% solubility for the Sumatra and a 90% solubility for the Siam variety, without limiting the amount of alcohol used.) The ash of all the samples was within the U. S. P. limit of 2%, except in 3 lots which ran 2.02%—2.06% and 4.68% respectively.—Reported by Geo. E. E'we.

Bone Ash. One sample sold as bone ash was really calcium phosphate, was pure white and assayed 98.8% $Ca_3(PO_4)_2$.—Reported by T. Liberati.

Blue—Soluble Laundry. About 0.5% of water insoluble material was obtained from each of three lots.—Reported by J. G. Roberts.

Brandy, U. S. P. One lot examined which contained an abnormal amount of oak tannin.—Reported by J. G. Roberts.

Boric Acid and Buchu Comp. Tablets. That medicinal tablets do not always contain what the label calls for is well illustrated by the following example. We had occasion to examine a sample of tablets labelled to contain in each tablet 2 grains each of Boric Acid and Sodium Bicarbonate, 1 grain each of Extracts of Buchu and Dog Grass, ½ grain each of Extracts of Corn Silk and Hydrangea, and 1/500 grain of Atropine Sulphate. Each tablet weighed on the average only 5.95 grains, whereas the medicinal ingredients claimed, amounted to slightly over 7 grains, exclusive of excipient. This is clearly a case of fraud. We are glad to state, however, that the tablets were not manufactured in Pennsylvania.—Reported by Geo. E. E'we.

Caramel. The 5 samples were free from carbonate, which is an abomination in preparations which are faintly acid.—Reported by Geo. E. E'we.

Catechu (Gambir), U. S. P. Two of the 6 samples examined were below

70% soluble in alcohol, assaying 39.7% and 48.6% respectively; the other four ranging between 84.6% and 88.9%. The ash of the 6 samples was within the U. S. P. limit of 5%, except in one lot which reached 6.5%.—Reported by Geo. E. E'we.

Charcoal-Animal, U. S. P. Two lots were examined; one answered the U. S. P. requirements for carbonization and ash, while the other was not completely carbonized and yielded over 4% of ash.—Reported by J. G. Roberts.

Chinese Cantharides. Two samples assayed 0.91 and 1.03% respectively of cantharidin, thus running considerably higher than the variety sold as Russian which has averaged in our laboratory during the past year 0.6% (21 samples). Powdered Chinese Cantharides differ in appearance from the Russian only in color, being brown instead of green. Aside from this, there would seem to be no reason why the Chinese variety should not be employed as its vesicating power as tried out in veterinary practice is good. The new Pharmacopœia will provide an assay process for Cantharides with a minimum standard not yet decided upon. —Reported by E'we and Vanderkleed.

Chloroform, U. S. P. Only 1 of the 12 lots was strictly U. S. P., 11 contained negligible traces of impurities decomposable by H_2SO_4, a few contained negligible traces of chlorides and chlorinated products, and one left a disagreeable odor on evaporation.—Reported by Richard Stockinger.

Two of three lots examined contained slightly abnormal amounts of decomposable impurities, otherwise they were all of U. S. P. quality.—Reported by J. G. Roberts.

Codeine Sulphate, U. S. P. Two of the samples examined were slightly effloresced, causing assays of 101.1 and 102.6% of the crystallized salt.—Reported by Geo. E. E'we.

Copaiba, U. S. P. The 10 samples examined were all within the U. S. P. limits as regards specific gravity, ranging from 0.966 to 0.987 at 25° C. (U. S. P.= 0.950—.995 at 25° C.). They were all above the U. S. P. limit of 50% resin, ranging from 54.0% to 65.9%. In the U. S. P. test for "presence of a normal proportion of acid resin," the 10 samples required from 2.62—3.20 cc. N/2 alcoholic KOH, all within the U. S. P. limits of 2.3—3.2 cc.—Reported by Geo. E. E'we.

Creosote, U. S. P. The 10 samples examined were U. S. P. except that 2 contained small quantities of "coerulignol and some other high-boiling constituents of wood tar." The specific gravity of the samples ranged between 1.078-1.081 at 25° C.; between 80.1% and 94.4% distilled between 200—220° C.; and the samples answered all other U. S. P. requirements.—Reported by Geo. E. E'we.

Cresol, U. S. P. Until recently it has been almost impossible to obtain Cresol which conformed to the specifications given in the U. S. P. It appears that the U. S. P. standard of 1.036 to 1.038 is too high, as one-half of the samples examined had a specific gravity below 1.036. Of the fifteen samples examined but seven had a gravity between the limits previously quoted. The gravity of the other samples ranged from 1.0277 to 1.0345. One had a gravity of 1.0426 but it was of exceptionally poor quality and is not to be considered.

It has also been difficult to obtain Cresol with the proper boiling point. The U. S. P. states that 90% should distil between 195° and 205° C. Seven samples

had distilling points agreeing with the U. S. P. requirements, seven others yielded 86 to 88% and the remaining one 87%.—Reported by J. G. Roberts.

Of 11 samples examined only 2 exactly met all U. S. P. requirements. Three samples only had specific gravities within the U. S. P. range of 1.036 to 1.038, 3 being lighter and 5 heavier, and only 4 distilled to the extent of 90% between 195° and 205° C., most of them distilling over in part below 195°. While the solubility requirement is of practical importance, it would seem that some definite requirement as to bactericidal power would be more important than gravity and distillation tests, inasmuch as coal-tar distillers seem to care little about collecting a distillate that exactly meets U. S. P. requirements.—Reported by Vanderkleed & E'we.

Diastase. The 2 samples examined assayed 1:300 and 1:250 respectively in starch-converting power, both being satisfactory from the standpoint of a 1:250 standard. Reported by Geo. E. E'we.

Elm Bark, U. S. P. Several samples of this material were considered unsatisfactory because they had considerable of the brownish outer bark still adhering to them. One trial sample was very inferior as it contained considerable dead wood and was partly mouldy. Reported by J. G. Roberts.

Ether, U. S. P. One sample was examined which did not conform to the requirements of the U. S. P. It had an excess of acidity, a slight foreign odor and contained an aldehyde. The U. S. P. states that a piece of moistened blue litmus paper should not acquire a red color in 10 minutes. This sample acquired a distinct red color in less than half a minute. The amount of aldehyde present was only slightly in excess of the U. S. P. limit, but a distinct test was obtained in one hour and a more decided test in 1½ hours.—Reported by J. G. Roberts.

Ethyl Chloride, U. S. P. The 21 samples examined had specific gravities ranging from 0.912 to 0.915 at 8° C. (U. S. P.=0.911—0.916), and answered all other U. S. P. requirements.—Reported by Fritz Heidlberg.

Eucalyptol, U. S. P. One sample had a specific gravity of 0.9241 at 25° C., while the U. S. P. requires not higher than 0.923 at 25° C. This sample answered all other U. S. P. requirements and was considered O. K.—Reported by Geo. E. E'we.

Ferric Chloride Solution, U. S. P. Eight of the 19 lots examined were slightly below the 10% metallic iron required by the U. S. P., ranging from 9.58% to 9.94%, the other 11 lots assayed between 10.09% and 10.64%.—Reported by Geo. E. E'we.

Ferrous Sulphate Exsiccated, U. S. P. Varies greatly in 2 $FeSO_4$ plus $3H_2O$ (which U. S. P. method of manufacture approximates). The three lots examined assayed 84.73%, 97.5% and 92.3% respectively.—Reported by Geo. E. E'we.

Formaldehyde Solution, U. S. P. Two of the 16 samples examined assayed slightly below the U. S. P. standard of 37%, testing 36.5% and 36.8%; the other 14 assayed from 37.1% to 38.7%.—Reported by Geo. E. E'we.

Gamboge, U. S. P. The 2 samples examined were strictly U. S. P.; ash 1.23 and 0.94%; alcohol insoluble matter 21.3% and 22.0%; and practically free from starch.—Reported by Geo. E. E'we.

Glycerin, U. S. P. The 10 samples examined were all above the U. S. P. specific gravity standard of 1.246 at 25° C., ranging from 1.24% to 1.251%. Most of

the samples contained negligible traces of butyric acid.—Reported by Geo. E. E'we.

As usual it has been a difficult matter to obtain a glycerin that conformed to the U. S. P. Butyric Acid test. The amount present is usually very small but it is sufficiently large to be easily detected by the U. S. P. test.—Reported by J. G. Roberts.

Guaiac, U. S. P. Four of the 15 samples examined contained less than 85% of alcohol soluble matter, assaying 63.2%, 83.5%, 70.1% and 80.4% respectively. Seven of the samples were purchased from one firm which evidently make a feature of straining their guaiac, as the seven samples all assayed above 97.3% alcohol soluble matter; the ash of these samples also ran exceptionally low, namely, from 0.07 to 1.1%.

Of the other samples, 5 contained more than 4% ash, assaying 6.8%, 8.2%, 4.9%; 4.3% and 8.4% respectively, and 3 were within the U. S. P. requirement of 4% ash, assaying 1.9%, 1.1%, 1.11% respectively.

It is practically impossible to obtain the acid number by the U. S. P. method.—Reported by Geo. E. E'we.

Honey, U. S. P. All of the samples examined were satisfactory from a chemical point of view, but several had an objectionable odor which was no doubt due to the lack of care in packing or during the time of production.

In seeking an explanation for this condition we learned that if honey is allowed to stand too long in the hive after finishing it becomes travel stained and discolored. In this manner it becomes contaminated with putrefactive substances which after a time decompose and give the honey an objectionable odor. Sometimes what is termed "brood honey" is mixed with a good quality honey. This is the portion that has been left in the hive over winter and serves as food for the bees. During this time it becomes contaminated with putrefactive substances which give the honey a rank odor and taste.—Reported by J. G. Roberts.

Hydrocyanic Acid, Diluted, U. S. P. Three of the 13 lots examined ran slightly below standard, 1.91%, 1.90%, and 1.92% respectively. The other 10 lots ranged from 2.02% to 2.40%, a rather large variation for so potent a drug.—Reported by Geo. E.E'we.

Hydrastis, U. S. P. Two lots were examined which contained only 2.45% of hydrastine. This is the first time in several years that we have had samples that contained less than the standard of 2.5% hydrastine given in the U. S. P.—Reported by J. G. Roberts.

Hydrogen Peroxide, U. S. P. Five of the 33 lots examined assayed slightly below 3% H_2O_2, the lowest assaying 2.90%; the others ranged from 3.01% to 3.30%. Two of the 33 lots required more than 2.5 cc. N/10 KOH for neutralization, 3.95 cc. and 2.60 cc. respectively.

The total solids never ran above the U. S. P. limit of 0.03 gm. per 20 cc., ranging between 0.0114 to 0.0218 gm.

Only one of many lots tested for As responded to the test, and that only contained a faint trace.

Only one of many lots tested for HFl contained this very objectionable impurity; the one lot contained considerable and was of the cheap ten cent store

variety. All of the many lots examined for heavy metals and barium were free from these.

One sample contained a small sediment of $BaSO_4$.—Reported by Carl E. Meddo.

Hypophosphorous Acids. The one sample of 30% standard examined, assayed 30.6%; 6 samples of 10% ranged between 10.7% and 11.4%; one of the four 50% samples was below standard, 47.0%; the others ranged from 50.7% to 54.7%.—Reported by Geo. E. E'we.

Iodine, U. S. P. The 13 lots examined all assayed above the U. S. P. standard of 99%; ranging from 99.1 to 99.9% absolute iodine.—Reported by Richard Stockinger.

Irish Moss, U. S. P. An examination of one lot showed that it contained 34.4% of moisture.—Reported by J. G. Rogers.

Iron Reduced, U. S. P. Of 15 samples examined, 10 assayed below 90% metallic iron and the rest above, ranging from 86.4% to 92.2%. One sample was labeled in the following interesting manner: "The quality of this product is as fine as can be practically turned out. It is not a strictly U. S. P. article because of the over-severe sulphide test." This sample produced a strong odor of H_2S immediately in the U. S. P. test for sulphide, yet many samples examined gave no blackening to lead test paper after 15 minutes in the test.—Reported by Otto Stockinger.

One lot was rejected for the reason that it did not have the proper appearance and contained an excess of sulphides.—Reported by J. G. Roberts.

Kaolin, U. S. P. None of the samples examined contained more than negligible traces of carbonates, which are a source of trouble in the manufacture of cataplasm kaolin.—Reported by Geo. E. E'we.

Kino, U. S. P. A sample assayed only 66.0% soluble in alcohol instead of being "soluble" as U. S. P. requires.—Reported by Geo. E. E'we.

Licorice Extract, Powdered. Two samples with a declaration of 30% starch assayed 39.5% and 32.3% starch respectively.—Reported by Otto Stockinger.

Lime Juice. Four samples assayed 0.0242%, 0.0269%, 0.0164% and 0.0189% respectively, of SO_2. The usual declared content of SO_2 is 0.03%.—Reported by Geo. E. E'we.

Lycopodium Substitute. Two samples of this substance were recently offered as substitutes for Lycopodium. A brief examination showed that they were merely treated starch grains colored with methyl orange.

One sample contained corn starch and the other sample potato starch. They yielded 0.77% and 2% respectively of oil. Genuine Lycopodium usually yields about 50% of oil.—Reported by J. G. Roberts.

Magnesium Sulphate, U. S. P. An excess of chlorine was found in two lots which when computed to magnesium chloride amounted to 0.42% and 1.10% respectively.—Reported by J. G. Roberts.

Milk of Magnesia. A sample assayed 20% over the strength declared on the label. This milk was recommended for the preparation of effervescent magnesium citrate solution and when so used resulted in an unpalatable preparation due to a lack of acidity.—Reported by Geo. E. E'we.

Magnesium Citrate, Effervescent. A sample so labeled contained magnesium

sulphate but no magnesium citrate, clearly a fraudulent preparation.—Reported by Geo. E. E'we.

Mercuric Oxide, Yellow, U. S. P. Three samples assayed less than the U. S. P. limit of 0.1% non-volatile matter, but two of the labels claimed only 0.005%, whereas they actually contained 0.038%. We do not understand why ridiculously exaggerated claims for purity are often made for chemical reagents of really satisfactory quality, when a conservatively accurate statement would prove more convincing.—Reported by Vanderkleed and E'we.

Myrrh, Gum. The 12 samples examined assayed on an average 36.0% alcohol soluble matter, ranging between 27.7% and 47.6%.—Reported by Geo. E. E'we.

Myrrh, Powd. The 2 samples examined varied widely in alcohol soluble matter, assaying 85.3% and 38.% respectively.—Reported by Geo. E. E'we.

Nitric Acid, U. S. P. Of the 9 lots assayed, 6 were below the U. S. P. standard of 68% HNO_3, ranging between 63.7% and 67.3%; the other 3 lots assayed 69.7%, 69.8% and 69.4% respectively.—Reported by Richard Stockinger.

Oil of Almonds, U. S. P. This oil, which was submitted as a trial sample, was abnormal in several respects. The specific gravity was a little high and the iodine number was beyond the limit specified in the U. S. P. It had an iodine number of 106, whereas the U. S. P. limits are from 95 to 100.

The mixed fatty acids melted at about 4° C. This is considerably lower than the 13° to 14° C. given by Allen in Organic Analysis, Vol. 4. The fatty acids from Peach Kernel Oil melt at 3° to 5° C.

On account of the foregoing abnormal conditions and in view of the fact that the U. S. P. Nitric Acid test indicated the presence of either peach or apricot oil, this oil was not considered genuine and was therefore rejected.—Reported by J. G. Roberts.

Oil of Aniseed, U. S. P. All of the samples were of the U. S. P. quality with the exception that one sample was optically inactive. A trace of lead was detected in three samples.—Reported by J. G. Roberts.

Oil, Castor, U. S. P. All of the samples (8) examined answered all U. S. P. requirements except the benzin solubility test, to which no sample conformed.—Reported by T. Liberati.

Oil Cloves, U. S. P. The 9 lots examined were all above the U. S. P. standard of 80% eugenol, ranging between 80.0% and 82.0%; the specific gravities were between the U. S. P. limits of 1.040-1.060 at 25° C., ranging from 1.040 to 1.056 at 25° C.; and answered all other U. S. P. requirements.—Reported by Carl E. Meddo.

Oil, Cod Liver, U. S. P. Of the 18 lots examined, 6 were slightly above the upper U. S. P. limit of 0.922 in specific gravity, ranging from 0.9221 to 0.9230; 9 were above upper limit of 150 in iodine number, ranging from 151.3 to 154.0, and 1 was below the lower iodine number limit of 140, namely, 137.3; 3 were slightly above the upper saponification number limit of 185, namely, 187, 187, and 185.4. Ten of the 18 lots examined gave orange end colors in U. S. P. test for "absence of seal oil, etc." All of the 18 lots answered all other U. S. P. requirements.

One lot had following characteristics: specific gravity 0.9200 at 25° C., iodine number 134, saponification number 186.6, orange coloration in test for seal oil,

etc.; odor very poor, answered all other U. S. P. requirements. This sample was rejected.—Reported by Geo. E. E'we.

Oil Cubebs, U. S. P. One sample marked "distilled by steam from marc of a cubebs preparation" answered all U. S. P. requirements for oil cubebs. The odor was not as pungent.—Reported by Geo. E. E'we.

Oil of Eucalyptus, U. S. P. This oil had a satisfactory appearance but it had rather an objectionable odor. Its specific gravity was slightly above the maximum limit of the U. S. P. It also was unsufficiently soluble in 70% alcohol as it required 5½ volumes to make a clear solution, whereas the U. S. P. specifies that only three volumes should be required.

In addition to the sample just discussed there was another one which answered the U. S. P. requirements with the exception that it had an optical rotation of —1° 49′ instead of the dextro-rotation of not more than plus 10°, as specified in the U. S. P.—Reported by J. G. Roberts.

Oil of Linseed, U. S. P. An examination of one sample of Linseed Oil used for core making and sold as pure oil revealed a condition of gross adulteration. No extended examination was made but mineral oil, rosin oil, and fish oil were found.—Reported by J. G. Roberts.

Oil, Olive, U. S. P. The 6 samples examined had specific gravities ranging between 0.9100 and 0.9116 (U. S. P. requires 0.910-.915); iodine numbers ranging between 81.2 and 84.2 (U. S. P. requires 80-88); 3 of the 6 had saponification numbers slightly below U. S. P. lower limit of 191, namely, 190.4, 190.4, and 190.6, the other 3 were 192, 194 and 194.5; none responded to the U. S. P. nitric acid test; and all 6 answered all other U. S. P. requirements.—Reported by T. Liberati.

Oil Orange. The optical rotation of the 8 lots examined ranged between plus 95.0° and plus 97.1° (U. S. P. equals not less than plus 95.0°). One lot marked "distilled by steam from marc of an orange peel preparation" answered all U. S. P.requirements, except of course method of manufacture, and the odor was inferior to that of an expressed oil.—Reported by Geo. E. E'we.

Oil Peppermint, U. S. P. The optical rotations of the 18 samples examined were all within 5.1° of each other, ranging from —20.7° to —26.8°, while the U. S. P. allows a range of 13°, namely, from —20° to —33°. A few of the samples contained traces of dimethyl sulphide.—Reported by Geo. E. E'we.

Oil Sandalwood, U. S. P. The optical rotations of all the samples examined during the past year ranged between the —16.0° and —20° required by the U. S. P.; the specific gravities from 0.969 to 0.971 (U. S. P. 0.965-0.980); Santalol from 92.3% to 95.2% and answered all other U. S. P. requirements.—Reported by Fritz Heidlberg.

One lot was examined which was not completely soluble in three parts of 70% alcohol as specified in the U. S. P. In connection with the performance of this test it was noted that 0.5° C. exerts an influence on the solubility; for instance, this oil was not soluble in three parts of 70% alcohol at 25° C., but a clear solution was obtained at 25.5° C.—Reported by J. G. Roberts.

Oil Turpentine, U. S. P. The specific gravity of the 11 samples examined ranged between the narrow limits of 0.859 and 0.862 (U. S. P. requires 0.860-0.870); from 84% to 95% distilled between 115°-162° C. (U. S. P. requires "the

larger part"); in the U. S. P. test for "absence of petroleum, paraffin oils or resin" from 0.0014 gm. to 0.0050 gm. residue was obtained (U. S. P. requires "a very slight residue"); and answered all other U. S. P. requirements. A certain time limit for letting the "dark mass" settle should be specified in the U. S. P. test for "absence of petroleum benzin, kerosene and similar hydrocarbons."—Reported by T. Liberati.

All of the turpentine samples examined have been of U. S. P. quality with the exception that they were not water white. They all had a light yellow color. Recent samples were almost water white.—Reported by J. G. Roberts.

Oleic Acid. A lot marked technical was examined which had a congealing point of 11.5° C. As the congealing point depends on the proportion of Palmitic and Stearic Acids present, it is quite evident that the high congealing point obtained in this instance is due to the presence of an abnormal amount of Palmitic and Stearic acids which have a higher congealing point than oleic acid.—Reported by J. G. Roberts.

Ox Gall, Powdered. None of the 7 samples examined were completely soluble in alcohol; 2, in addition were not entirely soluble in water; all gave the U. S. P. identification test, and clear solutions were not precipitated by an equal volume of alcohol. These oxgall samples seem to be simply dried and powdered oxgall, unpurified.—Reported by C. E. Meddo.

Pancreatin, U. S. P. Only one of the 7 lots examined assayed below the U. S. P. standard of 1:25, namely, 1:20, in starch converting power. One of the lots possessed a bad odor.—Reported by Geo. E. E'we.

The rejection of two lots was recommended because they had a benzin odor.—Reported by J. G. Roberts.

Papain. Of 19 samples examined 2 were up to standard (1:100), 4 were about 1:75 and 13 were about 1:50 or less in coagulated egg albumen digesting power.—Reported by L. H. Glickman.

Peroxide Bleach. A sample of so-called Peroxide Bleach submitted for examination had the following composition: Barium Sulphate 66.67%, Barium Phosphate 5.74%, Oxalic Acid 25.52%, undetermined and moisture 1.47%.

From the composition of this substance we infer that it is a by-product in the manufacture of hydrogen peroxide and that oxalic acid has been added to give it bleaching properties. This inference is strengthened by the fact that only a very small quantity of peroxide was found.

The use of the term "peroxide bleach" therefore is misbranding as it contains no peroxide other than the small quantity mentioned.—Reported by J. G. Roberts.

Pepsin Scale, U. S. P. Eighty-seven of the 95 lots examined assayed 1:3000, the other 8 lots assayed 1:2500.—Reported by L. H. Glickman.

One lot was rejected because it had a putrefactive odor.—Reported by J. G. Roberts.

Pepsin, Soluble, Powdered. Five of the 6 lots examined assayed 1:3000; the other lot assayed 1:2500. Reported by L. H. Glickman.

Pepsin, Insoluble, Powd. Nineteen of the 20 samples examined assayed 1:3000, the other one assayed 1:2500.—Reported by L. H. Glickman.

Petroleum. A sample of West Virginia Crude Petroleum was considered un-

satisfactory because it contained a large portion of lumpy material which prevented it from flowing smoothly.—Reported by J. G. Roberts.

Phenol, U. S. P. Usually there is but little trouble in obtaining carbolic acid that conforms to the requirements given in the U. S. P., but during the past six months we received one lot that had a pink color and another lot that had a low congealing point and a distinct yellow color.—Reported by J. G. Roberts.

Phosphoric Acid, U. S. P. All of the samples examined were of good quality with the exception of one trial sample which had a dark color.—Reported by J. G. Roberts.

Podophyllin. Six of 12 samples examined tested slightly below the U. S. P. standard of 99% soluble in alcohol, 98.9%, 95.2%, 98.1%, 98.9%, 97.9%, and 98.7% respectively. Three of the 12 samples assayed slightly more than the 1% ash allowed by the U. S. P., 1.2%, 1.2%, and 1.1%, respectively.—Reported by G. E. E'we.

Potassium Arsenite. The 19 lots examined ranged between 87.2% and 91.5% $KAsO_2$ plus$HAsO_2$ plus H_2O.—Reported by Carl E. Meddo.

Pumice Stone. A consignment of this material had a peculiar yellowish gray color which is quite different from the color of any sample previously examined. The National Standard Dispensatory states that pumice stone has a whitish gray and sometimes a bluish color.—Reported by J. G. Roberts.

Pyroligneous Acid. Two lots were examined and were found to contain 6.5% and 6.8% respectively of acid calculated as acetic acid.—Reported by J. G. Roberts.

Quinine, U. S. P. A sample labeled "Quinine Pure U. S. P., VIII," was anhydrous instead of containing three molecules of water.—Reported by Geo. E. E'we.

Quinine Sulphate, U. S. P. Four of the samples examined were effloresced, causing assays of 103.0-102.3-103.7 and 101.4% crystallized quinine sulphate.—Reported by Geo. E. E'we.

Rennin. A lot of rennin which assayed 1:50,000 in milk coagulating power, assayed only 1:13,000 thirteen months later. The diluent of the rennin consisted of sodium chloride and milk sugar and was free from boric acid or other preservatives. The rennin possessed an odor resembling putrid peptones when last examined.

One sample labeled "Sweet Rennin Powder—1:2500" assayed 1:2500.—Reported by Geo. E. E'we.

Sanguinarine Nitrate. Continues to assay very low; the 4 lots examined assayed 37.7%, 40.7%, 40.7% and 40.1% respectively.—Reported by W. H. Orrick.

Scammony Resin, U. S. P. The 2 samples examined assayed 65.8% and 56.7% soluble in ether (U. S. P. requires "almost completely"), but answers all other U. S. P. requirements.—Reported by Geo. E. E'we.

One lot was looked upon with suspicion because it did not give satisfactory results with the sulphuric acid identity test and also because it contained such a large amount of ether insoluble material.—Reported by J. G. Roberts.

Soap, U. S. P. The samples examined ranged from 10.5% to 27.0% moisture. —Reported by Geo. E. E'we.

Terebene, U. S. P. It seems to be impossible to obtain Terebene that conforms to the requirements given in the U. S. P. Three samples from different sources were examined. They all contained an abnormal amount of resinous substances and yielded 68 to 88% of distillate between 160° C. and 170° C. One sample had a high specific gravity and another was optically active. The U. S. P. states that it should be optically inactive and that it should be completely distilled between 160° and 170° C.—Reported by J. G. Roberts.

Yellow Wax, U. S. P. A trial sample was rejected because it gave unfavorable results with the U. S. P. paraffin and ceresin test and also because it had a low specific gravity and saponification number indicating contamination with a foreign substance.—Reported by J. G. Roberts.

The following table shows the results of 382 crude drug assays made in the Analytic Laboratory of the H. K. Mulford Company from June 1, 1912, to June 1, 1913:

Drug	No. of Assays	Lowest Assay	Highest Assay	Aver.	Standard	No. above Standard	No. below Standard
Aconite Root	10	0.272	0.800	0.433	0.5% Aconitine	2	8
Belladonna Leaves	18	0.253	0.545	0.420	0.3% Mydr. Alk	16	2
Belladonna Root	11	0.340	0.724	0.521	0.45% Mydr. Alk	8	3
Calabar Bean	7	0.095	0.196	0.146	0.15% Ether soluble alkaloids	3	4
Cannabis Indica	1	14.0	14.0	14.0	10% resin	1	0
Cantharides, Russian	21	0.292	1.130	0.604	0.6% Cantharidin	12	9
Capsicum	7	13.1	18.1	16.4	10% Oleoresin	7	0
Cinchona Red	27	5.36	10.28	7.63	5% total anhydrous alkaloids	27	0
Cinchona Yellow	1	6.34	6.34	6.34	5% total anhydrous alkaloids	1	0
Coca Leaves	4	0.353	0.928	0.713	0.5% Ether soluble alkaloids	3	1
Colchicum Corm	5	0.314	0.496	0.365	0.35% colchicine	2	3
Colchicum Seed	3	0.539	0.745	0.626	0.45% colchicine	3	0
Conium	2	0.513	0.622	0.568	0.5% Coniine	2	0
Cubebs	1	21.8	21.8	21.8	15% Oleoresin	1	0
Digitalis	20	0.213	0.450	0.316	0.25% Digitoxin	18	2
Ergot	13	0.107	0.347	0.218	0.15% Cornutine of Keller	10	3
Frangula	1	1.37	1.37	1.37	1.25% Emodin	1	0
Gelsemium	15	0.178	0.640	0.448	0.4% alkaloids	11	4
Ginger, African	17	6.85	9.92	8.42	6% Oleoresin	17	0
Ginger, Jamaica	37	3.10	5.75	4.37	4% Oleoresin	24	13
Guarana	2	4.33	4.62	4.48	3.5% alkaloids	2	0
Hyoscyamus	33	0.043	0.234	0.082	0.08% Mydr. Alk	14	19
Hydrastis	6	2.90	4.09	3.41	2.5% Hydrastine	6	0
Ipecac	15	1.73	2.63	2.13	1.75% alkaloids	14	1
Jalap	11	4.53	9.66	6.73	7% total resin	4	7
Kola Nut, Fresh	1	1.35	1.35	1.35	0.65% alkaloids	1	0
Mandrake	11	3.64	5.98	4.91	4% Resin	9	2
Nux Vomica	34	0.523	1.390	0.950	1.25% Strychnine	4	30
Opium Gum	5	10.50	12.27	11.45	9% Crystallized Morphine	5	0
Opium, Powd	13	11.95	12.75	12.26	12-12-5% Crystallized Morphine	12	1
Sanguinaria	15	2.52	6.04	4.21	2.5% alkaloids	15	0
Stramonium Leaves	14	0.170	0.618	0.297	0.25% Mydr. Alk	8	6
Veratrum	1	1.72	1.72	1.72	1% total alk	1	0
Total	382					264	118

Comparison with reports sent in previously:

Year		Total	Above	Below	Percent above
1909	Report.....	395	313	82	79.3
1910	"	340	291	49	85.6
1911	"	263	224	39	85.1
1912	"	298	235	63	78.8
1913	"	382	264	118	69.1

Last year, a lowering of the percentage of samples above standard, to 78.8% from the 85.1% of the previous year, was due principally to the poorer quality of Ergot, Ipecac, Jalap, Mandrake, Nux Vomica and Stramonium. This year's summary shows a further lowering of percentage of samples above standard down to 69.1%, due this time principally to Aconite, Physostigma, Cantharides, Colchicum Corm, Hyoscyamus, together with three of last year's offenders,—Jalap, Nux Vomica and Stramonium,—Ergot, Ipecac and Mandrake having reformed. So it goes with the vagaries of seasons.

LABORATORY NOTES.*

GEORGE E. E'WE AND CHARLES E. VANDERKLEED.

An Improvement in the Assay of Emodin-Containing Drugs.—For many years it has been customary for us to assay the emodin-containing drugs, cascara, rhubarb, senna and buckthorn, for the total amount of oxymethylanthraquinines, or emodin, yielded by the glucosides present in the drugs. While it has been known that the total cathartic action of these drugs is not due to the glucoside yielding emodin, a minimum emodin standard is undoubtedly of value in excluding inferior drugs and preparations. The method which we have used for estimating the emodin content of these drugs has already been published in these Proceedings.

Like many other assay processes, however, this one has given reliable or concordant results only when carried out under certain definite conditions. During the past year, in an effort to make these conditions uniform and invariable, we have adopted the following procedure as a substitute for the more general directions of the earlier published assay:

Sample equivalent to 0.2 gm. emodin, calculating size of sample from standard of drug and preparation. Place into 100 cc. 2 percent alcoholic KOH contained in a flask on sand (100 gms.) Boil under reflux one hour, allow to cool one-half hour, pour off liquid through cotton into cylinder. Repeat extraction three times, and evaporate in dish on water bath until nearly dry. Dissolve residue in 5 cc. water, transfer to separator, making final volume 25 cc. Add 60 cc. ether, then 10% H_2SO_4, 5 cc. at a time, until acid to litmus, then add 2 cc. more, shake for 3 minutes, allowing to separate. Draw off aqueous layer to a second separator, pour ether through cotton into a 400 cc. beaker. Repeat the extraction with 60 cc. ether three times, reject aqueous layer, evaporate the other extractions on water bath to small volume. Add 20 cc. stronger ammonia water, heat

* Presented to the Pennsylvania Pharmaceutical Association, June, 1913.

on steam bath until nearly dry, add 10 cc. water, warm, add 10 cc. 10% H_2SO_4, warm 15 minutes, with almost constant stirring, cool for 15 minutes, filter on small filter into a separator. Wash beaker and filter with water until total volume is 35 cc. Place the filter paper into the beaker used in heating treatment with sulphuric acid, add 15 cc. 5% sulphuric acid, heat on steam bath with almost constant stirring for 15 minutes. Cool for 15 minutes, filter on small filter into the separator containing the first filtrate, wash the beaker and filter with water until free from acid. Total volume of both filtrates must be 70 cc. Shake out with four portions of 60 cc. ether each, evaporate in tared flask, dry at not more than 60° C. for two hours and then in desiccator to constant weight.

Boric Acid as a Preservative for Urine for Analysis.—We recently had occasion to manufacture a large quantity of Boric Acid Tablets, 2 grains, for one of the large life insurance companies, the tablets to be used by its department of medical inspection for the preservation of urine samples. We made an interesting test of the effectiveness of these tablets for the purpose for which they were intended. One tablet dissolved in four fluidounces of a urine sample preserved it for six days, whereas the control sample "spoiled" in about three days. When two tablets were used, a four-ounce sample was preserved for nine to ten days. The preserved samples remained clearer throughout, and as the presence of the boric acid does not interfere with the ordinary tests usually applied to urine samples, the value of this method is evident.

What is Terra Alba?—In the American Journal of Pharmacy for February, 1913, Professor Charles H. LaWall asks "What is Terra Alba?" Reference to older text books and dispensatories discloses the fact that in times past at least, terra alba was considered to be a silicate of aluminum. Recently an examination of fourteen samples from ten firms shows that the trade today considers it to be a non-setting form of calcium sulphate. For many pharmaceutical purposes, the present day terra alba is unsatisfactory, as it slowly reacts with carbonates in the presence of moisture, and for this reason is unsatisfactory as a diluent.

Phenol Used for Determining Bactericidal Power.—Not a few of the discrepancies that often occur in the reports of various laboratories on the phenol coefficient of disinfectants are undoubtedly due in part at least to variation in the phenol used as a standard. If the phenol used be contaminated with its higher homologues, which have greater bactericidal power, the sample is compared with too high a standard and the result of the test is too low. The assay of the supposed 5 percent solution does not provide a means for detecting the presence of higher homologues, but the U. S. P. provides a test which is serviceable for this purpose. The U. S. P. requires that phenol liquified by gentle heat, should have a congealing point not lower than 39° C., since traces of cresols, etc., tend to lower the congealing point.

A source of error may arise, however, in attributing a lower congealing point to the presence of higher phenols. We have found that a low congealing point may be due to the mere presence of moisture in amounts far short of causing liquefaction of the crystals. It is important, therefore, that the sample be first dried in a desiccator for several hours before subjecting it to the congealing-point test.

Effect of Vacuum Preservation on Precipitation.—In preserving galenical

preparations of ergot, digitalis, etc., in vacules or vacuum ampuls, it is necessary of course to place them in the vacuum containers as quickly as possible after the testing and adjustment to definite strength has been accomplished. Noting that the usual slight precipitation of inert extractive matter took place in the vacules after some days, we set about to determine whether this tendency to precipitate is increased by the vacuum treatment and if so, whether this was caused in part by a slight loss of alcohol during the evacuation of the containers. The following table shows the amount of precipitate by volume present in the same lot of preparation put up in ampuls "with" and "without vacuum" and both with and without 2 percent added alcohol.

Tests were made at intervals of one month after sealing the ampuls.

March 28	April 28	May 28
F. E. Ergot without vacuum	0.27%	0.34%
F. E. Ergot without vacuum, with 2% added alcohol	0.55%	0.3%
F. E. Ergot with vacuum	0.28%	0.3%
F. E. Ergot with vacuum, with 2% added alcohol	0.3%	0.5%

It is perfectly apparent from this table that the use of vacuum in no way increases the amount of precipitation, and it furthermore shows that the addition of an extra 2 percent of alcohol in no way retards this precipitation. The ampul which contained 0.55 percent of precipitate on April 28 seems to have been a sort of exception.

The table also seems to prove that most of the precipitation occurred soon after these ampuls were filled, and that during the last month not a great deal of precipitate was added to that which originally formed.

It is needless to say that this precipitate represents only inert matter, as many tests in our laboratories have shown that these preparations retain their full activity when preserved in this manner.

Limit of Codein in Morphine.—It has been reported in several of the journals during the past year that the morphine sulphate on the market has contained considerable quantities of codein amounting in some cases to 7 percent. We have examined a considerable number of samples by the method given by Williams in the September, 1912, number of the American Journal of Pharmacy, which is practically the same method as will be incorporated in the new Pharmacopoeia. We also tested the samples by the methods of the Netherlands, Swiss and Japanese Pharmacopoeias, which are essentially the same, except that the residue of codein is weighed. In no case did we find more than 1.29 percent codein sulphate by the gravimetric methods, nor more than 0.94 percent by the volumetric method. This, however, in no way controverts the statements that some of the morphine on the market contains larger quantities of codein, as all our samples were from one source.

Estimation of Morphine in Tablets.—During the past few years, a number of solvents and mixtures of solvents have been proposed for the extraction of morphine in the assay of morphine preparations. For example, some time ago Thorburn[1] proposed the use of phenyl ethyl alcohol as a suitable solvent for this purpose. Engelhardt[2] has recently proposed a mixture of isobutyl alcohol and

[1] Journal Industrial and Engineering Chemistry, October, 1911.

[2] Deutsche Americanische Apotheker Zeitung, 1913.

chloroform for this purpose. The method which has given the best results in our hands, however, is that of Bernegau and Heidlberg, published in last year's Proceedings. We have slightly modified the method as follows:

Dissolve sample equivalent to 0.2 gm. or less of morphine in not more than 15 cc. of water (insoluble matter does not cause emulsions) in a separator, add 50 cc. of amyl alcohol, make alkaline with ammonia and heat on steam bath for 10 minutes, shake for 5 minutes and allow to stand until cold. Draw off aqueous layer into a second separator and pour the amyl alcohol into a 300 cc. Erlenmeyer flask containing a few grains of sand. Repeat the extraction with amyl alcohol twice. Distill off the united amyl alcohol solutions in an oil bath just to dryness. (Do not overheat). Blow out the vapors of amyl alcohol and dissolve the residue of morphine alkaloid in 20 cc. of N/20 sulphuric acid with the aid of chloroform and heat. Titrate back with N/50 potassium hydroxide, using methyl red as indicator.

In a series of experiments, while we obtained from 0.5 to 0.76 percent more than the theoretical quantity of morphine sulphate by the amyl alcohol method, we obtained from 5 to 13 percent less than the theoretical by the phenyl ethyl alcohol method, and from 4.7 to 7.5 percent less than the theoretical by the isobutyl alcohol method.

ANALYTICAL LABORATORY OF H. K. MULFORD COMPANY, June 20, 1913.

OREGON AND CANADA BALSAM OF FIR.*

J. G. ROBERTS AND M. M. BECKER.

Considerable difficulty has been experienced in the past year or two in obtaining Canada Balsam of Fir (Terebinthina Canadensis). It is stated that it is practically unobtainable at this time and that there will be none available until the next crop has been gathered. In view of this fact, it has become necessary to find a suitable substitute. Accordingly there is considerable Oregon Balsam Fir now being offered to the trade. This is an allied natural product and bears a close resemblance to the better known Canada Balsam of Fir.

As information regarding Oregon Balsam of Fir is exceedingly meagre it became necessary in order to obtain data that would assist in establishing the identity and purity of given samples to obtain some Oregon Balsam of Fir from a known source. Such a sample was procured through the courtesy of Mr. R. G. Bailey, who guaranteed that it was a genuine sample of Oregon Balsam of Fir. It is very similar in color, odor and taste to the Canada Balsam but it is noticeably thinner.

We have examined several lots of Oregon Balsam of Fir that were purchased on the open market and have noted several points of difference between them and

* Presented to the Pennsylvania Pharmaceutical Association, June 11, 1913.

the Canada Balsam. At this time we will make comparisons between the results obtained on the authentic sample and the results obtained on previous lots. In this manner sufficient data may be obtained that will aid in distinguishing the Oregon Balsam from the Canada Balsam.

Canada Balsam of Fir is recognized both by the U. S. and the British Pharmacopœias. But with the exception of the customary description, the magnesium oxide test and the various solubilities there are no tests in either of them that would aid in establishing its purity or identity. In view of this fact it has been our custom to compare our results with standards given in the British Pharmaceutical Codex and in Allen's Commercial Organic Analysis, Vol. 4.

The chief differences that we have observed between the Canada and the Oregon Balsams are in the viscosity, the solubility in alcohol and in the character of the magnesium oxide test. The Oregon Balsam is thinner than the Canada Balasm. It is also completely soluble in alcohol, whereas the U. S. P. Balsam yields a turbid solution on the addition of alcohol. Canada Balsam conforms to the U. S. P. magnesium oxide test which requires that the Balsam should solidify when mixed with 20% of its weight of magnesium oxide previously moistened with water. The Oregon Balsam does not solidify even when mixed with 60% of its weight of magnesium oxide. The addition of the excess of Magnesium Oxide causes a separation of the water used for moistening. The resulting mixture is stiff but it does not have the same consistency as the Canada Balsam test.

The Oregon Balsam does not dry as readily as the Canada Balsam. A drop spread on a glass plate was still sticky at the end of three weeks, while some of the Canada Balsam under the same conditions was noticeably drier and did not adhere to the finger when touched. This fact leads us to the conclusion that the Oregon Balsam is not as suitable as the Canada Balsam for microscopical work.

As previously stated, neither the U. S. P. or the B. P. give chemical constants for Canada Turpentine. The British Pharmaceutical Codex states that it should have a specific gravity of about 0.987 to 0.994 at 15.5° C., an optical rotation of +10° to +4° and an acid number of 80 to 87. Allen quotes an acid number of 80 to 87, an ester number of 4 to 10, and states that it contains a resin which is difficultly soluble in alcohol. In Squire's Companion to the British Pharmacopœia we find that the optical rotation of the distillate should be from —26° to —29°. All of the samples of Canada Balsam that we have examined compared favorably with the above standards.

The specific gravity of the Bailey sample is within the limits quoted for Canada Balsam. As a matter of fact, these limits seem to apply to Oregon Balsam generally as the specific gravity of all our samples have been well within these limits.

The optical rotation of the Bailey sample is +8° 36′. This is higher than what was obtained on other samples as they have ranged from —2° 52′ to +0° 42′.

As a rule, the optical rotation of the distillate is a better method of determining the difference between the Canada and the Oregon Balsams. But the optical rotation of the distillate obtained from the Bailey sample is—26° 39′, which is well within the limits given for the distillate of the Canada Balsam. Previous

samples had optical rotations, ranging from —34° 43′ to —41° 3′. These are all higher than the standard of—26° to —29°, given by Squire.

Generally the acid number is a satisfactory means for establishing the difference between the Canada and the Oregon Balsams. With one exception all of the samples of Oregon Balsam examined have had an acid number above 87. The following are the acid numbers obtained on the various samples: 100.5, 100.8, 105.82, 106.75 and 111.

The ester number is valueless as a means of identity. With the exception of one sample of Oregon Balsam which had an ester number of 13.9, all of the samples had ester numbers within the limits of 4 to 10, given by Allen for Canada Balsam.

The following is the analytical data obtained on the Bailey sample of Oregon Balsam of Fir:

Specific gravity at 25° C	0.9865
Specific gravity at 15° C	0.9930
Solubility in 95% alcohol	Completely
Solubility in 90% alcohol	Completely
Solubility in ether	Completely
Solubility in chloroform	Completely
Solubility in benzene	Complete
Optical rotation direct when taken at 25° C	+8° 36′
Optical rotation of distillate when taken at 25° C	—26° 39
Boiling point	157° C. to 230° C.
Acid number	111
Ester number	5.25
Saponification number	116.25

Conclusion.—It is rather difficult to establish data for determining the points of difference between substances of similar origin such as Canada Balsam of Fir and Oregon Balsam of Fir. In this investigation we have found that the most reliance can be placed on the viscosity, the magnesium oxide test and the solubility in alcohol. None of the samples of Oregon Balsam have answered the U. S. P. magnesium oxide test; they are all thinner and completely dissolve in 95% alcohol. All of the samples of Canada Balsam of Fir have given satisfactory results with the U. S. P. magnesium oxide test and are not completely soluble in alcohol. They have also compared favorably to the standards given by the British Pharmaceutical Codex, Allen's Organic Analysis and in Squire's Companion to the British Pharmacopœia. As previously stated, the acid number is a good indication, as the acid number of Oregon Balsam is usually higher than the acid number of the Canada Balsam.

On account of our limited experience with Oregon Balsam of Fir and also because the sample under discussion is the only one that we have obtained from a guaranteed source, we are unable to suggest standards that would differentiate between a natural and an artificial Oregon Balsam of Fir. But we feel confident that the data given above will be useful in determining that point.

ANALYTICAL DEPARTMENT, SMITH, KLINE AND FRENCH COMPANY.

SOCOTRINE ALOES.*

C. J. DENNEHY.

The U. S. P. description of aloes includes the inspissated juices of Aloe vera (Linne) Webb, the common type of curacoa aloes, Aloe Perryii or typical socotrine aloes, and other species such as Natal and Cape aloes under one general heading.

It states that aloes should be "in yellowish brown to blackish brown opaque masses, translucent in thin fragments; fracture uneven, dull and waxy, somewhat resinous or smooth and glassy, somewhat conchoidal; occasionally exhibiting microscopic crystals of aloin; odor characteristic; taste nauseous, bitter."

This definition, though wide enough to cover all varieties of genuine aloes, fails to describe some samples as imported. Aloes, both socotrine and of other varieties, has often been imported into Britain, and the United States, in barrels and in a pasty condition which renders the U. S. P. description as regards the article as received by the wholesalers or submitted to them for analysis, of no avail. It is then up to the chemist of the wholesale houses either to reject the shipment as abnormal on its physical appearance or being satisfied after testing for chemical identity and purity, to state that if dried the sample would be of proper U. S. P. quality.

The importation, however, of these pasty aloes is not to be encouraged. They nearly all contain about twice the amount of water allowed by the U. S. P., and there is no reason why the product containing excessive moisture should be shipped, as they are pasty and difficult to handle.

The following analyses of socotrine aloes obtained in the laboratory of the Smith, Kline & French Company, are typical of these humid aloes:

Socotrine Aloes	No. 50.	"Caled"	No. 52	No. 54	"M"
Physical Appearance.....	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal
Odor and Taste.....	Normal	Normal	Normal	Normal	Normal
Reaction with Nitric Acid....	Normal	Normal	Normal	Normal	Normal
Reaction with NaOH.....	Normal	Normal	Normal	Normal	Normal
Moisture	23.48	19.58	12.08	20.48	19.00
Reaction with Sodium Borate	Normal	Normal	Normal	Normal	Normal
Amount from 5 gms. insoluble in 60 cc. of water on cooling	1.914	1.990	2.278	1.954	1.998
Alcohol test for gums, dextrins and impurities.....	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal
Ash	4.5	3.64	16.22	4.12	5.5
Nitric and sulphuric acid test for absence of Barbadoes and natal aloes, N. S. D..	Negative	Negative	Negative	Negative	Negative

As the above samples were submitted for an U. S. P. examination, all were rejected, as they contained about twice the amount of water allowed by the

* Read before the Pennsylvania Pharmaceutical Association, June, 1913.

U. S. P., besides which they failed to pass the alcohol test for the limit of gums, dextrins and impurities.

Even if the samples were dried until they had the prescribed water content of 10 percent, the amount of water insoluble substance would then be above the limit allowed by the Pharmacopoeia.

For instance, sample marked No. 50 would then have 2.251 grams of water insoluble substance; sample marked "Caled," 2.227; sample No. 52, 2.472; sample No. 54, 2.221, and sample "M," 2.222.

While the U. S. P. contains no standard for the ash of socotrine aloes, both Kraemer and Parry state that it should not yield more than 4 percent, while Squire's Companion to the British Pharmacopoeia, 1908 edition, places the ash limit of socotrine aloes at 3 percent.

Though the ash of all these samples was slightly high and in conjunction with the alcohol and water soluble tests afforded corroborative evidence of impurity, yet in only one case was it considered sufficiently high to cause the rejection of the sample.

This sample which is marked "Caled," also contained a considerable quantity of hair, probably due to its having been packed in skins, in which, according to Squire, it is sometimes imported into Britain.

An interesting fact is emphasized in an article on the products of the Island of Socotra by Dr. Miller, JOURNAL A. PH. A., August, 1912. He does not mention socotrine aloes as one of these products, but draws special attention to the statement in Brockhaus' Conversations Lexicon, 1908, that at present no aloes whatever is obtained from Socotra. He also states that almost all the aloes then sold as socotrine was probably from Zanzibar, Moka, and other countries.

In this connection it is of interest to note that Dr. Rusby, in his report on the Drug Market for 1911, stated that Moka aloes had been supplied for socotrine to American manufacturers and dealers. "Though geographically classed with socotrine aloes, it was from every other point of view entirely distinct and as inferior as it was distinct. The substance is black and soft like thin tar and is exceedingly disgusting in odor and taste. It contains a much larger percent of albuminous matter than official aloes."

The rejection of moka aloes by the Federal authorities led at the time (1911) to vehement protests from the European shippers. The latest report on the Drug Market in 1912 JOURNAL A. PH. A., June, 1913, stated that Moka aloes had practically disappeared from the market. The sample "M," rejected by our laboratory, which containing a decided amount of substance soluble in cold alcohol and being in a pasty condition, was not very different in odor from normal samples.

Internally, it presented the appearance of a brown paste, covered where exposed to air by a brown to jet black shining surface, but when dried in thin laminae on a watch glass, the color was normal.

ANALYTICAL DEPARTMENT, SMITH, KLINE & FRENCH CO., Philadelphia, Pa.

WHAT IS THE QUALITY OF THE PANCREATIN ON THE MARKET?*

CHARLES H. LAWALL, PH. M., PHILADELPHIA.

To answer such a query satisfactorily would require a knowledge of the subject not readily obtainable by a single individual, for the quality of pancreatin offered to a large manufacturing establishment where an analytical laboratory is maintained would doubtless differ from that offered to a small consumer who is known to have no facilities for testing the product. A case in point which illustrates the necessity for some kind of a careful supervision of purchases and at the same time emphasizes the ingenuity and lack of principle of a seller of pancreatin, was recently observed by me.

A sample of pancreatin was offered to a manufacturing pharmacist who maintains no analytical department and by him submitted to me for examination. The customary tests were applied of determining its peptonizing power upon milk and its converting power upon starch. The unusual condition was observed of a sample which possessed a high diastatic power in converting starch and a low peptonizing power upon milk. It was further noticed that an unusually large proportion of the material remained undissolved by water and upon a closer examination, both physically and microscopically, revealed the fact that the article in question consisted partly of powdered malt. This, of course, had the effect of raising the starch converting power and as this test is sometimes the only one applied, and as the appearance of the material in the small sample submitted was normal, the producer of this spurious product was simply taking a chance, probably counting upon no thorough examination of the sample being made.

DETECTION OF CANE SUGAR IN HONEY.†

CHARLES H. LAWALL, PH. M., PHILADELPHIA.

By the above query I suppose is meant the detection of *added* cane sugar in honey for it is an established fact that sucrose normally exists in cane honey to the extent of as high as 8 percent, which is the maximum amount permitted by the standards of the U. S. Department of Agriculture.

There are no color reactions or simple chemical tests for the differentiation or distinction of any of the sugars and these are detected only by inferential tests based either upon the reducing power before and after inversion or by the optical activity under similar circumstances. As sucrose is chemically the same whether normally existing in the honey or in the shape of cane or beet sugar and as it is

*Presented to Pennsylvania Pharmaceutical Association, June, 1913, in reply to Query No. 31. What is the quality of the Pancreatin on the market?

†Presented to Pennsylvania Pharmaceutical Association, June, 1913, in reply to Query No. 13. The detection of Cane Sugar in Honey.

the amount rather than the actual presence which decides the genuineness of the article, the only tests of value are the quantitative tests, even were qualitative tests possible, which they are not.

The best method for the determination of cane sugar is by the use of the polariscope and the use of an algebraic formula in connection with the figures obtained for the optical rotation before and after inversion, observations being made at the same temperatures.

By inversion, of course, is meant the hydrolysis of sucrose which, when heated with diluted acids, is converted into dextrose and levoluse, the levulose being in excess and the mixture of the two resulting sugars therefore possessing a levorotatory power in contradistinction to the dextrorotatory power of sucrose.

As honey consists largely of invert sugar (from 50 to 80 percent), and as invert sugar is readily prepared from cane sugar in large quantities, it seldom happens that such a clumsy method of adulterating honey as by the addition of cane sugar direct is practiced, when it is possible to convert the same sugar into invert sugar and thus simply add a sugar which is normally present in the honey. Invert sugar, like sucrose, is the same chemically, whether existing naturally or prepared artificially from sucrose, and it would be impossible to detect added invert sugar in honey were it not for the fact that in the process of inversion by any of the artificial methods, a small amount of furfuraldehyde is produced, and as furfuraldehyde is never present in genuine honey and as it can be detected in very minute amounts and with as great certainty as is the case with formaldehyde, it is customary to apply a test for the presence or absence of furfuraldehyde before deciding whether a honey is or is not genuine, even if the proportions and kinds of sugars are normal.

Such a test was years ago devised by C. A. Browne,* and is as follows:

Test 5 cc. of a 1 : 1 solution of the honey in distilled water, in a test tube with 2 cc. of aniline acetate reagent (freshly prepared for the test by mixing 5 cc. of aniline and 5 cc. of water and adding just sufficient glacial acetic acid to make a clear solution), allowing the reagent to flow into the tube gently so as to form a separate layer upon the honey solution. If the tube be then gently agitated so as to slightly but not entirely mix the two layers a red ring or zone will be produced at the point of contact if furfuraldehyde be present, indicating the presence of added invert sugar.

Unfortunately this test is not infallible for when pure genuine honey is heated (as for instance, in the process of clarification when heat is sometimes used), furfuraldehyde is also formed and the test is of no value therefore unless applied to honey which has been known to never have been heated.

In conclusion I would say that it is not possible to detect cane sugar in honey in the sense of a qualitative test; that, as cane sugar is normally present in small amounts, its quantitative determination, preferably by means of the polariscope, becomes necessary; that the form in which sugar is added usually is that of invert sugar which can be readily detected in honey which has never been subjected to heat.

*U. S. Dept. of Agriculture Bureau of Chemistry Bulletin 110, p. 68.

A SIMPLE DEVICE FOR HANDLING HOT EVAPORATING DISHES.*

CHARLES H. LAWALL, PH. M., PHILADELPHIA.

The lifting, holding or transferring of a hot evaporating dish is frequently very inconvenient. The crucible tongs, although sometimes used, are not well adapted for the purpose of handling any but the smaller dishes. For handling dishes varying from six inches in diameter upward they are very risky to use.

Test tube holders are even less well adapted than crucible tongs and the method which is frequently or one might say, generally employed, that of using a towel or a piece of cloth, is decidedly unsatisfactory and unprofessional.

A satisfactory device which may be made in a few minutes by anybody who has a large cork and a sharp penknife has been in use by me for a long time with great success.

Take a No. 10 or 12 cork and beginning at the small end, cut a slit in it slightly wider than the thickness of the dish and running back about three-fourths the length of the cork. When completed, this makes a springy handle which can be slipped over the side of the dish and firmly grasped with the fingers without danger either of burning them or contaminating the contents of the dish. For large or heavy dishes, two of the improvised handles may be used, one being slipped over each side of the dish when it is to be moved.

PHARMACISTS THAT I HAVE MET.

JAMES G. STEELE, SAN FRANCISCO.

WILLIAM M. SEARBY.

In the year 1865, I had occasion to visit the drug store of H. P. Wakelee & Co., in the Occidental Hotel, on the corner of Bush and Montgomery streets (at that time I was in the employ of William H. Keith & Co., No. 521 Montgomery street). I met a pleasant voiced gentleman behind the counter, who, after some conversation, referred me to Mr. Stroud, an English pharmacist then in charge of the establishment.

My short talk with Mr. Searby was the commencement of a friendship that lasted forty-five years, until his death in October, 1910. This friendship strengthened with the passing of years and was of much benefit to me in many ways.

Mr. Searby was educated in England (his native country) and passed successfully through the different examinations in London, the headquarters of the British Pharmaceutical Society, until the *major examination* was reached, when he passed with "flying colors" and was granted the legal title of "Pharmaceutical Chemist." After some years of business partnership with his brother, Wright Searby, he made up his mind to go to America and so took ship for Vic-

*Presented to Pennsylvania Pharmaceutical Association, June, 1913.

toria, British Columbia, where he arrived with a stock of goods and fixtures in 1860.

He passed the next five years in Victoria with varying fortunes, marrying meanwhile a young English lady by name Pidwell, and finally resolved to go to the "States," taking steamer and landing in San Francisco in 1865. He soon obtained employment with Wakelee & Co. After his engagement with the Wakelee firm, he started a store in 1866 at the corner of Fifth and Mission streets, where he did business until he moved to No. 871 Market street in 1875. He remained there in active business until with his partner, Mr. Zeilin, he moved his stock and fixtures to the corner of Stockton and Sutter streets, where they carried on a very successful drug business until the great earthquake and fire of April, 1906, when in common with one hundred other pharmacies the store was utterly destroyed.

In 1868 the store of William H. Keith & Co. came into my possession, my uncle, William H. Keith, retiring. At the instigation of William Simpson, an old-time apothecary, I visited several representative men in our vocation and got them to promise to attend a meeting at my store for the purpose of taking into consideration the necessity and feasibility of starting a pharmaceutical society. At the appointed time, eighteen attended and after much discussion it was resolved to call a general meeting of the druggists of San Francisco to meet in one of the public court rooms in November. Mr. Searby was present at this initial conference. He also attended the meeting held in November and was elected President of the new association which was called the "California Pharmaceutical Society." In after years the wisdom of this general title was seen. Fully one-half of the membership of the society was made up of "country druggists," all of whom were zealous in the cause and all enthusiastic admirers of Mr. Searby.

Mr. Searby held the office of President until 1878 and was re-elected in 1885-6. He was always elected one of the trustees at our annual meetings and exercised the best influence in the councils of the society.

In 1872 the California College of Pharmacy was founded. The first Board of Directors were elected at a stated meeting of the California Pharmaceutical Society, and were William M. Searby, William T. Wenzell, J. W. Forbes, William Simpson, John Calvert and James G. Steele. These gentlemen also acted as incorporators of the college according to California law. Rooms were engaged and fitted up in the third story of a brick building on Montgomery street between Washington and Jackson. The following professors were appointed by the board: William T. Wenzell, Chemistry; William M. Searby, Materia Medica; J. Winchell Forbes, Pharmacy, and Dr. Hehrmann Behr, Botany. Several young men matriculated and lectures were inaugurated. Professor Searby early showed great aptitude in teaching and holding the attention of his class. The infant college was affiliated with the University of California according to the scheme of John W. Dorinelle, who drew up the plan of organization providing for the "taking in" of subsidiary colleges.

The College of Pharmacy passed through many vicissitudes and was located in several buildings in different parts of the city, until in the fall of 1899 it came into the possession of and occupied the whole building erected by the state on

land donated by Gustav Sutro on Parnassus avenue, overlooking the Golden Gate Park.

Professor Searby held his professorship with slight intervals all through the years until his death. In the later years he also officiated as the Dean and Secretary of the college. Students of the college during Professor Searby's incumbency were instructed by the clear presentation of a subject commonly slighted and comparatively new to them. They knew something of drugs of course, but their knowledge of materia medica was small and vague. The professor's new and clear illustrations brought the subject before their eyes and caused these dry and recondite studies to become of vital interest. He would take, say, the roots of *Serpentaria, Spigelia, Rhcum* and with his pocket lens make clear the special marks and characteristics of each drug. With his pleasant and correct English, he would excite and hold the attention of the students, fixing on their minds the individual nature of each drug, and doing it withal in so beautiful a manner that lessons became of interest and charm. Here, too, was shown year after year the power of teaching by example as well as by precept, which led his pupils to increasing stores of knowledge and proved of aid in their subsequent advancement!

Since the last semi-annual meeting of the California Pharmaceutical Society at Los Angeles in 1892, no semi-annual meetings have been held. The annual meetings were held in San Francisco until 1896. The gift of Gustav Sutro to the Affiliated Colleges of the magnificent site on Parnassus avenue overlooking the Golden Gate Park and much of the "Western Addition" and Richmond District, together with the erection by the State of three imposing buildings devoted to the professions of pharmacy, medicine, dentistry and law so fully occupied the minds of the pharmacists that all interest centered in the College of Pharmacy and the California Pharmaceutical Society was allowed to "go to sleep." Since then, however, the old society has been revived under the name of the California Pharmaceutical Association of which Professor Searby was elected President at the initial meeting held in November, 1907. This association has held annual meetings in different cities of the state and now rejoices in a membership of over 500.

In 1907, Professor Searby was elected President of the American Pharmaceutical Association, the highest honor in the gift of organized American Pharmacy. Mr. Searby had attended several of the annual meetings of the association held mainly in eastern cities and attracted the attention of all by his erudition and graces of manner. As an after dinner speaker he was *"primus inter pares,"* equal to the best and always devoting all his thoughts to the uplift of pharmacy.

In 1892 he became editor of the San Francisco Druggist, which publication in 1895 passed into the hands of Redington & Co. In May, 1909, he in conjunction with others deeply interested in the cause of pharmacy published the "Pacific Pharmacist," of which he was made the chief editor. On the death of Professor Searby this publication passed into the hands of Dr. Albert Schneider, a gentleman of rare attainments and a graduate of Columbia University, New York, and one well known to American pharmacists for his writings for the advancement of Pharmacy.

The long connection of Professor Searby with the California Pharmaceutical

Society, of which he was always regarded the responsible and managing head, proved of great value to that and similar organizations in the interests of pharmacists. From the parent society sprang the first Board of Pharmacy (of which Mr. Searby was a member and elected President), the operations of which were confined to the city and county of San Francisco, the said Board being dissolved in 1880, consequent to adoption of the new State Constitution and the vote of the people; the San Francisco and State Retail Druggists' Association, both of which lapsed in 1896; the State Board of Pharmacy, created by the State Legislature in 1892; the Pacific States Pharmaceutical Association, which was merged in 1909 with the Pacific Branch of the American Pharmaceutical Association; the California College of Pharmacy, organized in 1872, and in the same year accepted as one of the Affiliated Colleges with the University of California, various pharmaceutical societies in the State, particularly in the "Bay Cities" (around San Francisco Bay), and divers conventions and committees called from time to time, to consider the needs of modern pharmacy and the requirements of the retail drug business.

All these felt and acknowledged the benefit of the guiding hand of Professor Searby. In all these and kindred organizations he was an honored and hard-working member, filling important positions and arousing in others by power of his own example, high and noble thoughts and purposes. He was dignified by his coadjutors with the title of "Nestor" in Pharmacy of the Pacific coast.

Professor Searby's contributions to Pharmaceutical literature consist mainly of papers on practical Pharmacy, on pharmaceutical education and pharmaceutical legislation, published in the San Francisco Druggist, the Pacific Druggist, the American Journal of Pharmacy, the Proceedings of the American Pharmaceutical Association, the California Pharmaceutical Society and the Pacific Pharmacist.

The more important papers contributed by him to the cause of progressive pharmacy were: On Pills and Pill Excipients; on Spigelia; Materia Medica for Pharmacists; The Decomposition of Potassium Iodide by Spirit of Nitre; Pharmaceutical Legislation; What Studies Should a Young Man Take up Who Intends to Enter a College of Pharmacy; a Simple Way of Making Simple Syrup; on *Rhamnus Californica* and *Rhamnus Purschiana;* Changes that I have Witnessed in the Drug Business during the Past Forty Years; An Improved Process for Making Compound Cathartic Pills; Standardizing Galenical Preparations; on Radams' Microbe Killer; Revision of the U. S. Pharmacopœia; Poison Laws; on Weights and Measures; Old versus Modern Pharmacy; The California State Board of Pharmacy, etc., etc.

In his college work Professor Searby proved himself a teacher of rare ability and great power. Not only did he impart knowledge to the students in the college classes, but unconsciously and unintentionally he impressed upon them the force of a beautiful character. The students, his associates in the faculty and the directors all honored and revered him. Mingling with him in his business life, it was easy to see that "success in business" was not his sole ambition. He never deemed wasted any effort or time that he could give to the betterment of others and many examples could be cited of his entire unselfishness and of his desire to assist in the progress of his fellow beings. He was a man who was

before the public sufficiently to receive national recognition, yet without an enemy. He always stood for honesty in municipal affairs and always opposed "grafting" of all kinds, and yet no one ever wished him ill. Kind, courteous and gentlemanly to all, though never flinching when the right was in question, he "tempered justice with mercy" and won through kindness coupled with firmness. He was a valued and efficient officer of the Presbyterian Congregational Church. His was the true Christian spirit. He led a consistent and blameless Christian life. No one can adequately estimate the good he did while among the living, or the influence of his example after death.

The Board of Directors of the California College of Pharmacy received many tributes of respect for Professor Searby's memory, from numerous organizations and individuals. The Directors and the Alumni Association of the College of Pharmacy passed resolutions of regret and condolence and caused them to be sent to the family of the deceased.

The Secretary of the Board of Regents of the University of California notified the Board of Directors that the Regents had voted to have a marble chair with a proper inscription to the memory of Professor Searby set up in a suitable place within the University grounds.

His name will always be held in grateful remembrance and will be classed with the names of Proctor, Parrish, Cushman, Hoffman, Ebert, Squibb, Rice, Maisch and others who have made it the work of their lives to exalt the cause of true Pharmacy in America.

The professor's devotion to the uplift of Pharmacy in California and the Pacific States had much influence in turning the eyes of the pharmacists to the merit and necessity of organization and was a moving factor in building up the membership of the California Pharmaceutical Association.

In 1912 the Board of Directors of the College had a mural tablet prepared with a suitable inscription to the memory of Professor Searby, and set up on the wall of the college building.

Professor Searby died in October, 1910. One of the deans of the Affiliated Colleges on learning of the illness and nearness to death of the professor, said: "The death of Professor Searby will prove a great loss to the entire student body. He possessed a tender conscience and never did or thought a wrong thing."

KEEPING UP WITH PROGRESS.

The narrow man can't survive. Broader chests and broader foreheads are ready to replace him. The young man is challenging his ability. Unless he constantly renews his vitality and reviews his knowledge—unless he keeps posted and keeps pacing—unless he adds to his mental kit the newer tools of thought and trade—the newer systems and the newer economics—he cannot hope to compete in the after-building.—*Herbert Kaufman.*

Of General Interest

THE NEW ENGLAND LETTER.

ERNEST C. MARSHALL, PH. G.

WOMAN IN PHARMACY.

The last annual banquet of the Massachusetts State Pharmaceutical Association was notable in the fact that at that gathering occurred the first recognition by the pharmacists of Massachusetts of the newly-organided Women's Section of the A. Ph. A., which was most happily represented on that occasion by its President, Mrs. John G. Godding.

The formation of this section, after more than a half century of existence of the A. Ph. A., is strongly indicative of the spirit of the times in which we live, as was also the earlier formation of the W. O. N. A. R. D., which organization was also charmingly represented at the same banquet by Mrs. Jessie F. Waterhouse, the National President, and by Mrs. Mary Cooper, the President of Boston Chapter. The recognition of woman as a co-partner of man in the scheme of life seems nearer to a full realization than ever before in the history of the world. Not alone as a political partner, a suffragette, has woman come to the front in recent years, but she has advanced rapidly in other ways; ways which demonstrate not so much her independence of man, but her true place as the maker of men, into which effort she concentrates a large part of her existence and accomplishes most splendid work, while modestly occupying a retired position, from which coign of vantage she guides and guards, unnoticed and unrecognized, the one in whom her existence, her whole life is centered.

It is only in a condition of barbarism, of selfishness and brutality, that woman is denied her full recognition as the equal and compeer of man. As he develops beyond the primeval instincts, as he becomes elevated above the level of the beast, he learns more and more to appreciate the powerful aid and assistance which his female companion lends to him in such a quiet and persuasive way as almost to be unnoticed and unappreciated. And it is largely to this aid that many of our so-called great men have been set above their fellows in politics, in literature, in art and in science.

A charming story by Governeur Morris, entitled "The Back Seat," which recently appeared in one of the magazines, had for its theme the wife of a secretary of state, who, in a mental breakdown of her husband, carried the country through the diplomacy of a nerve-racking foreign imbroglio, without informing the world of his incapability and inefficiency and brought to his reputation an added lustre, after which service she gracefully retired to "a back seat."

And there are many such instances, not those of fancy, but of absolute recorded and recognized fact, as is attested by many men who have not hesitated like Sergeant Matthew Bagnet, to avow their obligations to her whose patient zeal in her obscure place has brought wreaths of laurel to him whom she so efficiently served.

Let us pharmacists, then, welcome to our inmost councils, to all of our associations, to a close fellowship, these Rachels and Leahs of our lives. Let us also each and every one appreciate as a strong support, the one who has given her life to us, who sits behind with untiring patience with mind only intent to serve.

There is a wealth of meaning in the rhapsody:

"She is mine own,
And I as rich in having such a jewel
As twenty seas and all their sands were pearl,
Their waters silver
And their rocks pure gold."

So I welcome the participation of women in the deliberations of the councils of the A. Ph. A. "Blessed be the tie which binds" her to us in closer bonds, from which must result great good to all, both individual and collective.

Those ancient Greeks, so wise and so ar-

tistic that they teach us something almost every day, made Minerva the Goddess of Wisdom; and Silenus the God of Un-Wisdom and Sensuality, and they gave to the goddess no spouse to interfere with the working of her clear and vibrant mind. Let us then, as we look across the coffee and rolls of our morning breakfast into the clear eyes of the Goddess of our Household, gather inspiration for our day's work, for our struggle against the evil forces in business and make closer communion with her a certain factor to success in all that is worth achieving.

MAINE.

The forty-sixth annual meeting of the Maine Pharmaceutical Association was held at Peak's Island, Portland Harbor, on Wednesday, June 25, to Friday the 27th. Among the delegates to the Association was Dr. Frank Piper of Boston, who represented the Massachusetts College of Pharmacy. Dr. Piper made a short address on being introduced, in which he called attention to the advantages of a scientific education in general and to the special advantages offered by the Massachusetts College of Pharmacy. After the reception of delegates the President delivered his annual address, which was replete with suggestions of value to the Association and the trade. The report of the Secretary showed a total membership of 328. The Treasurer's report showed a favorable financial exhibit. Mr. James A. Broe reported for the Pharmacy Commission and Mr. E. W. Murphy reported for the Committee on Legislation. It was voted to send a copy of the recently enacted narcotic law of the state to every member. The election of officers resulted in the following selections: For President, F. H. Tupper, of Bangor; for Vice Presidents, William H. Wood, D. T. Dougherty, F. W. Butler; for Secretary and Treasurer, Dr. M. L. Porter, of Danforth, who has held the same office for seventeen years. J. A. Broe was recommended for a second term as Commissioner of Pharmacy, and F. H. Tupper, E. W. Murphy, T. H. Davis, J. F. State and E. F. Carswell were appointed as delegates to the American Pharmaceutical Association. After the meeting the members embarked on board of a special steamer and were taken on a trip about Casco Bay, stopping at Great Diamond Island, where by permission of the Secretary of War, they inspected Fort McKinley, one of the new harbor defenses of the port. On the return of the party to Peak's Island a grand ball closed the session. The next meeting will be held at Bangor, June 30 to July 2, 1914.

Bath. A. Hallet & Co. have recently equipped a tasteful pharmacy at this place. The fixtures are from the firm of C. H. Bangs & Co. of Boston, Mass.

Portland. The Kosmos Supply Co. has been incorporated by M. A. Thurston and H. P. Sweetzer for the purpose of dealing in chemical supplies.

NEW HAMPSHIRE.

The New Hampshire Pharmaceutical Association held its fortieth annual meeting at the Hotel Wentworth, Newcastle, on June 26 and 27. The first day's session opened with an address by the President, A. J. Precourt, of Manchester, which was listened to with close attention by all the members. Various reports of the executive officers were received showing the Association to be in a flourishing condition as to finance and membership. During the first session the ladies attending the convention were taken on an automobile ride about the city of Portsmouth to the various points of Revolutionary interest and other show places. The second day of the meeting was given up to an excursion to the Isle of Shoals, the party leaving Portsmouth at eleven o'clock in the morning. Dinner was served at the Affledore House on the arrival of the party and the day was spent in rambling about the island. The party returned to the city about six o'clock and a banquet was served during the evening at which Mayor Badger was the principal guest. A cabaret entertainment also served to enliven the dinner. The officers elected for the ensuing year were Eugene W. Emerson, of Milton Mills, President; H. R. Boire, B. P. Porter, Vice Presidents; Chas. G. Dunnington, Secretary; S. Howard Bell, Treasurer, and J. H. Marshall, Auditor; H. E. Rice, E. C. Tilton, C. G. Dunnington, Executive Committee.

The New Hampshire State Board of Health in its last annual report gives considerable attention to analyses of the many proprietary preparations which are sold in that state, and publishes the true cost and selling-price of these articles. Much good might

result if the druggists of the state should present to their customers this report as, if the people would decline to buy such nostrums, the way might be clear to sell them something of the druggist's own preparation which would be of benefit to both druggist and patient.

Concord. George H. Richardson, a well-known druggist of this city, died at his summer home at Bow, N. H., on June 25, of typhoid fever. Mr. Richardson was a native of Concord, having been born here in 1867. In his early manhood he lived for a time in Boston, where his father was engaged in business. He was for many years engaged in the drug business on South Main street. His widow and one daughter survive him to mourn his loss.

Manchester Walsh and Cummings are occupying temporary quarters pending the refitting of the former location at the corner of Amherst and Elm streets. The store is to be made nearly twice as large as before, and when finished will be one of the finest stores in northern New England.

VERMONT.

The twentieth annual meeting of the Vermont Pharmaceutical Association was held at Brandon Inn, Brandon, Vt., on the 24th and 25th of June last. About sixty members were present with their wives. The Association was welcomed to the town by Dr. O. C. Baker, one of the local physicians, and the response was made by President Collins Blakely. The President's annual address spoke of the benefits of organization and of the advantages which have accrued to the trade from organized effort in the legislative field. He also treated of the evils which infest the profession,—chain-stores, price-cutting, etc. Reports of the standing committees and of various officers showed a healthy condition of the Association and its activities in behalf of the trade. Dr. C. W. Peck, of Brandon, delivered an interesting address calling for a higher standard of efficiency for druggists, which address was received with applause. The principal address of the meeting was given by Professor C. F. Nixon, of Leominster, Mass., who took for his subject, "Added Profits for Druggists." He urged his listeners to a use of Propaganda methods in their business and to keep themselves and their help busy in making their own preparations. "Busy men," he said, "meant more money." He criticised several of the N. F. formulas and suggested changes in their method of preparation. He related many details of his own store experience, by means of which he had greatly increased his own profits and urged his auditors to go and do likewise. Prof. E. H. LaPierre contributed a paper on Re-Percolation. The matter of a National Home for Druggists was referred to a special committee. The Association voted to affiliate with the N. A. R. D. The officers elected for the ensuing year are: President, A. B. Anderson, of Swanton; Vice-Presidents, Fred R. Parker, O. H. Skinner, and F. C. Spooner; Secretary and Treasurer, W. E. Terrill; Trustees, W. L. Root, Fred D. Pollard, N. C. Dodge. The Traveling Men's Auxiliary of the Association entertained the members with a reception and dance on Wednesday evening and an excursion to Lake Dunmore on Thursday, at which a fish dinner was served. The Traveling Men's Auxiliary elected the following officers: President, E. P. Hyde, of Salisbury; Vice President, C. C. Maynard; Secretary and Treasurer, W. L. Wood; Executive Committee, George J. Shanley, C. G. Maynard and C. F. Rockwood. Press, G. J. Shanley.

Burlington. The Rosenberg pharmacy, on the corner of Church and College streets, was broken into on Sunday night, June 14, and about seventy dollars was taken from the cash register and the safe. The clerk of the store is reported missing and steps have been taken for his apprehension.

Randolph. H. A. Leonard's store was burglarized on Saturday night and a small amount of goods was taken.

MASSACHUSETTS.

The New Ocean House in Swampscott, Mass., was the Mecca for the druggists of the Bay State during the week of June 23, that being the place of meeting of the Massachusetts State Pharmaceutical Association for its thirty-second annual gathering. President William S. Briry, of Melrose, called the convention to order on Tuesday morning and the Chairman of the Board of Selectmen, Mr. James F. Caton, welcomed the Association to the town. About three hundred members were in attendance at the meeting. Mr. Thomas H. Potts, the Secretary of the N. A. R. D., was the special guest of the Association and made eloquent

and forceful addresses to the Association at one of its meetings and at the banquet on Wednesday evening. The reports of the executive officers showed the Association to be in a most flourishing condition, both as to finances and membership. About sixty percent of the druggists of the state are members of the Association. Resolutions of regret and sympathy were adopted on the deaths of J. Arthur Bean and Thomas B. Nichols, the veteran Treasurer of the Association. The Legislative Committee made its report through Messrs. Finneran and Hubbard and this report showed that a tireless and watchful effort had been made by the committee in the interest of the profession with most successful results, in no case were the recommendations of the committee disapproved by the Legislature. Mr. Frank F. Ernst made an interesting address on Propaganda Work by druggists, which address was received with applause. Mr. Marshall called the attention of druggists to the necessity of dating the labels of preparations liable to change, such as **Syrup Hydriodic** Acid, in order to prevent mistakes or misrepresentation regarding their permanency. The Association was addressed by President Packard of the Massachusetts College of Pharmacy and by Dean Bradley upon the work of that college. Mr. Heinritz ably presented the work of the American Druggists' Fire Insurance Co.; Mr. F. L. Carter spoke as a delegate of the N. W. D. A., and Mrs. J. F. Waterhouse spoke for the W. O. N. A. R. D. Communications conveying congratulations were read from President W. B. Day and Secretary James H. Beal of the A. Ph. A., the latter referring particularly to the representation of the Association in the House of Delegates of the A. Ph. A., and from the German Apothecaries' Association, with plans and itinerary of their proposed European tour. Papers were read by Leon A. Thompson on "The Clerk as a Commercial Asset," by Leopold Bartel on "The Little Family Drug Store," by Prof. LaPierre on "Syrup Placendus." Papers were also presented from Dr. Frank Piper on "Two Important Factors in Pharmacy," from R. Albro Newton on "Reading Between the Lines," from Herman T. Hawthorne on "Stock and Its Classification," and from William T. Bell on "Featuring Confectionery in Drug Stores." Prof. Bradley made a report for the Committee on Adulteration. On Wednesday evening the annual banquet of the Association was given, one of the pleasantest features of which was the presentation to Messrs. Finneran, Hubbard and Nixon of magnificent silver loving cups of exquisite design in recognition of their service to the trade upon behalf of the Legislative Committee. The presentation speech was made by President Frank F. Ernst, who, in most fitting words, told of the gratitude of the pharmacists to these gentlemen and of their desire to show their appreciation of the work they had done in legislative matters for the trade. Messrs. Nixon, Hubbard and Finneran responded to the address of President Ernst in words which evinced how deeply they were touched by this testimonial to them, while each disclaimed that their service entitled them to such a generous recognition of their efforts. The cups are of solid silver, lined with gold, about eighteen inches high, wrought in the highest art of the silversmith. They stand on a base of ebony and are inscribed with the names of the recipients and of the donor. The other speakers at the banquet were Thomas H. Potts, Mrs. John G. Godding, who spoke for the Women's Section of the A. Ph. A., Mrs. Waterhouse and Mrs. Cooper, who responded for the W. O. N. A. R. D., President Frank J. Campbell, President F. L. Carter and C. H. Packard, who responded for the M. C. P. At Thursday's meeting Mr. James F. Finneran was endorsed for election to the Executive Committee of the N. A. R. D. Professor Nixon suggested a New England meeting for 1914, and the matter was referred to the Executive Committee. Mr. Finneran called attention to the plan proposed by Secretary Beal of bringing the state associations into closer affiliation with the national organizations, and it was voted that the Executive Committee take this matter into serious consideration. Mr. J. A. S. Woodrow made an address on "Store Development and Salesmanship," which presented several new ideas to the members. On motion of Mr. Finneran it was voted to appoint three representatives to the House of Delegates of the A. Ph. A. The other features were the entertainment of the T. M. A. on Tuesday evening, a most successful affair, the games and sports in which members and their ladies contested for supremacy, and the ball and fireworks which concluded the meeting, all of which were

under the efficient direction of Mr. C. Herbert Packard, the Chairman of the Committee on Entertainment. The officers elected for the ensuing year were: President, Frank A. Campbell, of Lowell; Vice Presidents, John T. Harper, William Hardie, T. J. Fitzpatrick; Secretary, James F. Guerin; Treasurer, James F. Finneran. William S. Briry, John J. Tobin and James J. Brown were nominated for the State Board of Pharmacy, Charles F. Nixon, E. T. Leonard and Peter J. McCormick were nominated for the State Board of Health, and Fred A. Hubbard, of Newton was nominated to the State Board of Trade. William F. Sawyer, Edward A. Mole and J. W. Cooper were elected as Trustees of the Permanent Fund. Delegates to House of Delegates, C. F. Nixon, John G. Godding, Ernest C. Marshall.

Boston. E. Avery Brewer of the firm of Brewer & Company of Worcester, has purchased an interest in the firm of Carter, Carter & Meigs of Boston. Mr. Brewer says that there will be no radical changes in the conduct of the business by the union of the firms.

Emery M. Willard of the G. S. Cheney Co. died at the Emerson Hospital on Friday, July 12. His funeral took place on Sunday, July 14, from his home in Roslindale.

Holyoke. Frederick J. Heinritz, the oldest son of L. G. Heinritz, has returned home after his graduation as B. S. cum laude from Amherst College. He was one of those selected to compete at the Commencement exercises for the Bond prize of $100. Another son of Mr. Heinritz (Stuart F.) has just finished his Sophomore year at the same college. It was because of the graduation of his son that Mr. Heinritz was obliged to cut short his attendance on the meeting of the M. S. P. A.

Lawrence. Arthur F. Ryder is building a new block on the corner of Essex street and Broadway in which he will fit up a most up-to-date pharmacy when the building is finished.

Acting upon the opinion of the City Solicitor, the Licensing Board has suspended the liquor license of George Haley at 689 Essex street for sixty days, the term to end August 29, 1913, because of the conviction of his clerk for the illegal sale of liquor on the licensed premises.

Lynn. Arthur Smith is to open a drug-store on Union street in the near future.

Hamilton. George W. Fitz, the Chairman of the Board of Selectmen, has been ordered by the Supreme Court to sign the druggists' licenses which had been voted to be issued by the two other members of the board. Mr. Fitz had previously declined to sign these licenses, but on being instructed by the court in the law said that he would obey it and sign the two licenses granted.

Marshfield. E. L. Pinkham, of Medford, has opened a store in Feinberg's block. This is the first drug-store opened in the town since its incorporation.

North Adams. George M. Chase, one of the proprietors of Apothecary Hall, has been appointed a member of the town Board of Health.

Pittsfield. David P. Sullivan was thrown from his automobile on the 18th ult. He was severely bruised and shaken up.

Reading. Clarence Okley, while freezing ice cream in his store on July 6, was struck by a bolt of lightning which demolished the freezer and rendered Mr. Okley and his assistant, Mr. Barrett, unconscious for a short time. They were not seriously injured.

Salem. Joseph A. Fitzgerald died at his home on Forrester street Saturday afternoon, June 22. He leaves a widow and one son.

Springfield. Charles V. Ryan is fitting up a new store on Main street. He expects to have occupancy about September 15.

The police of this city are making a crusade upon the traveling vendors of dope material. Within the last two weeks they have made two arrests of such persons. They were fined for the offense, but it would almost seem that a term in prison is the only punishment for a person who aids in the moral deterioration of others.

Webster. The druggists of this town were "on the grill" before the Selectmen on the 20th ult. The Chairman of the Board, Mr. George Brunell, informed the druggists that the Board had been informed that unless it controlled the sales of liquor by the druggists, that out-of-town officers would be brought in to secure evidence and make complaint. He did not believe the law had been violated, but he urged the druggists to a strict compliance with the law to avoid any possible trouble by people from other places.

Worcester. Lucius M. Green, an old-time druggist of this city, died at Bayonne, N. J., at the age of 73, on July 6. His body was

brought to Worcester and laid by the side of his wife in Rural Cemetery.

RHODE ISLAND.

The Rhode Island Pharmaceutical Association held its annual meeting and outing at the Warwick Club on Wednesday, July 9. About one hundred of the members attended the outing. President Edward Colton presided over the business session at which twenty-one new members were added to the membership of the Association, and a resolution approving the Myer-Bush bill was passed.

After a program of field sports had been run-off, the party sat down to a true Rhode Island clam-bake, one of the most pleasing features of which was the offering of a toast by President Colton to "Our Southern Pharmaceutical Friends, the Virginia Pharmaceutical Association." When the toast was called for the audience rose and drank the toast standing, while the band played "Dixie."

The officers of the Rhode Island Association are: President, Edward Colton; Vice President, Harry L. Swindell; Secretary, Clarence Bowmer; Treasurer, George T. Armstrong. The committee in charge of the outing consisted of Earl E. Mason, Chairman, Byron Smith, Jr., and Earl Swindell.

Cumberland. The police commissioners have made new rules regarding the stocking of liquors in drug-stores, the most important of which is that no kind of bottled beer or ale shall be kept in drug-stores.

CONNECTICUT.

The thirty-seventh annual meeting of the Connecticut Pharmaceutical Association was held on June 11-12 at the Hotel Pembroke, Woodmont. The attendance was the largest in the history of the organization. Reports of the officers and legislative committee were received, the latter reviewing the legislation referring to druggists which was recently passed. The officers elected for the ensuing year are: President, S. M. Aller; Vice Presidents, H. E. Purdy, I. H. Levy; Secretary and Treasurer, P. J. Garwin.

East Killingly. The American Druggists' Syndicate has purchased the International Cotton Company's plant for the manufacture of absorbent cotton at this place and will increase the capacity of the plant to 3,000 or 4,000 pounds a day. New machinery is to be installed at once and other articles of similar nature are to be manufactured. The business will be carried on under the old name, the only apparent change being the placing of two representatives of the A. D. S. on the Board of Directors of the cotton plant.

New Britain. W. N. Schweitzer, for twenty years a clerk in Main street stores, has opened a pharmacy on his own account at 355 Arch street.

New Haven. G. E. Judd is to open a drug store at east New Haven, filling a want long felt in this district.

New London. William Sayle, a druggist of twenty-five years' standing in this town, died on July 3. Mr. Sayle left a property assayed at about $30,000.

Plainville. P. J. Prior has been confirmed by the U. S. Senate as postmaster of this city, and will soon assume the duties of that position. He proposes to continue his drug business also in addition to his official duties.

Waterbury. Six druggists of this city have had their licenses as druggists indefinitely suspended by the State Pharmacy Commission, because of the conviction of these druggists by the courts on charges of violating the excise laws. This penalty was in addition to penalties ranging from $50 to $300 imposed upon the defendants. The state police are said to be very active in securing evidence against druggists of this section for the sales of morphine, cocaine, etc.

Report on the Progress of Pharmacy

For the Year 1912

(Fourteenth Installment.)

ANTIPYRINE DERIVATIVES.

Mannich and Krösche call attention to the fact that the already observed precipitate occurring when antipyrine solution is mixed with formaldehyde and ammonia (or with hexamethylene-amine) is a distinct combination of the three substances having the formula $C_{36}H_{39}O_3N_7$. The same substance is obtained when antipyrine, formaldehyde and ammonium chloride are mixed, but when antipyrine, formaldehyde and hydrochloric acid are combined there is produced methylene bis-antipyrine, $C_{23}H_{24}O_2N_4$ which also results along with formaldehyde and ammonium chloride when the hexamethylene-antipyrine body $C_{36}H_{39}O_3N_7$ is heated with hydrochloric acid.

This decomposition reaction suggests that the new base is either a derivative of the bis-antipyrine body or that the hydrolysis first produces antipyrine and formaldehyde and that these two substances then react to produce the bis-antipyrine body and that the latter is true is shown by the fact that the bis-antipyrine body does not form if the hydrolysis is accomplished in the presence of something—example, sulphurous oxide—which will combine with the formaldehyde the moment it is liberated.

The hexamethylene-antipyrine body is shown to be tris-antipyril-tris-methylene-amine $(C_{11}H_{11}N_2O\text{-}CH_2)_3N$ and similar condensation products can be made, as shown below, from antipyrine derivatives and analogues. The combinations, because of their slight solubility, are of but slight therapeutic value and by reason of possible formation of these bases under influence of the hydrochloric acid of the gastric juice, antipyrine and hexamethylene-amine should not be prescribed together.

The following bodies were prepared during the investigation:

1. *Tris - antipyril - tris - methylene - amine.* Small crystals, M. P. 259-260°.

2. *Hydrochlorate of same.* White crystalline powder, M. P. 178°.

3. *Methylene-bis-antipyrine.* $C_{23}H_{24}O_2N_4$, melting (when dried) at 179°.

4. *Bi-hydrochlorate of same.* Small crystals, M. P. 120-125°; when free from water, a crystalline powder, M. P. 200-220°.

5. *Monohydrochlorate of same.* Large soft crystals, M. P. 94-95°; when free from water, M. P. 100-110°.

6. *Tris - tolypyryl - tris - methylene - amine,* $(C_{12}H_{13}N_2\text{-}O\text{-}CH_2)_3N$. Small crystals, M. P. 214-215°.

7. *Hydrochlorate of same.* Short white crystals, M. P. 100-105° when air dried; 191° when completely dried over sulphuric acid.

8. *Methylene-bis-tolypyrine,* $C_{25}H_{28}O_2N_2$, obtained along with formaldehyde and ammonium chloride, when "7" is hydrolysed with 5% HCl. Fine white matted crystals (M. P. 190° when completely dry), which were also prepared by action of formaldehyde on tolypyrine.

9. *Tris - homo - antipyrine - tris-methylene-amine.* $(C_{12}H_{13}N_2\text{-}O\text{-}CH_2)_3N$, obtained by treating homo-antipyrine with hexamethylene tetramine in the presence of hydrochloric acid and then making mixture alkaline. Small white shining crystals melting at 280°.

10. *Hydrochlorate of same.* Fine hygroscopic crystals, melting at 202°.

11. *Methylene-bis-homo-antipyrine.* $C_{25}H_{28}O_2N_4$, obtained along with formaldehyde and ammonium chloride when "9" is hydrolysed with 5% HCl. Combines with one molecule of water, forming small crystals, melting at 120-130°, and when completely dry it melts at 105-106°.

12. *Bi-hydrochlorate of same.* White loose crystal masses, M. P. 200-210°.

COMPOSITION OF TANNIN.

K. Feist reports his study of tannin obtained from Turkish and from Chinese nut-

galls. He reviews his prior work of obtaining from commercial tannin a pure crystalline body, which he called gluco-gallic acid, and he now discusses its preparation from Turkish galls (by extraction in Soxhlet's apparatus first with chloroform, then with benzene to remove fat, wax and other impurities, and then removal of the pure body by extraction with absolute ether) and the physical properties of the glucogallic acid, including optical rotation $[\alpha]D^{17} = +10.6°$. He finds that glucogallic acid has the molecular weight 318.2 (calculated by titration with N/10 alkali) or 315 (by increase of boiling point); that one molecule of it hydrolyses to one molecule of gallic acid and one molecule of glucose; that it contains water of crystallization and that its formula is either $C_{13}H_{16}O_{10}H_2O$ or $C_{13}H_{14}O_9 2H_2O$. It is not hydrolysed by action of emulsin; it contains no aldehyde group, but does contain a phenol group.

The latter part of the paper deals with tannin from Turkish nutgalls. This tannin, purified by the chloroform-benzene-ether method described above, hydrolysed with normal sulphuric acid, yielded gallic acid and dextrose, but not much of the latter (as much as 20%) was decomposed during hydrolysis; hence the proportion of the two products of hydrolysis could not be determined. The optical rotation of tannin is $-[\alpha]D+28.6°$ to $+31.8°$; molecular weight estimations are reported and a comparison of the methyl compounds of the two tannins—Chinese and Turkish—is presented.—Arch. d. Pharm., 250 (1912), No. 9, 668. (H. V. A.)

ALKALOIDS OF PAREIRA BRAVA.

M. Scholtze publishes a critique of a paper on this topic by Faltis (Monatsheft f. Chem., 33—1912—873), correcting by past experiments and some just carried out several of Faltis' conclusions; notably that the latter's iso-bebeerine is not $C_{21}H_{23}NO_4$, but is $C_{17}H_{19}NO_3$.—Arch. d. Pharm., 250 (1912), 684. H. V. A.

DEXTROGYRATE LUPANINE.

A. Beckel reports further work on this alkaloid as conducted by Professor Ernst Schmidt and his pupils. The paper gives table of yield of alkaloid by different methods of extraction from Lupin seed, followed by physical data relating to d-Lupanine $C_{15}H_{24}N_2O$ (M. P. 200°) and to oxy-lupanin $C_{15}H_{24}N_2O_2$ (M. P. 205-206°), both of which were obtained from the crude alkaloid. Oxidation of the d-lupanine with chromic acid mixture, with hydrogen dioxide, both 3% and 30%, and alkaline potassium permanganate was tried. The yield of oxidized product in the first two cases was too small for satisfactory examination, but the permanganate product gave a gold salt (M. P. 188-189°) and a platinum salt $(C_{15}H_{24}N_2O_2 HCl)_2 PtCl_4+2H_2O$. With bromine either in aqueous, alcoholic or acetic acid solution, lupanin forms an orange red precipitate. This does not mean (as previous investigators have reported) a splitting of the lupanine, but the product consists of a mixture of the dihydrobromides of lupanine, of oxy-lupanine, and of ethoxy-lupanine. These, Beckel has been able to separate by fractional crystallization.

Ethoxy-lupanine dehydrobromide $C_{15}H_{23}N_2O$ O $C_2H_5 2HBr$ melts between 228 and 236° and has optical index αD—129.4°.

Ethoxylupanine hydriodide prepared from the hydrobromide with hydriodic acid as needles melting at 221-222°.

Ethoxy-lupanine-di-sulphocyanate, $C_{15}H_{23}N_2O$ $C_2H_5 2HSCN$, by treating the hydrobromide with ammonium sulphocyanate colorless needles, M. P. 172-174°.

Ethoxy lupanin gold chloride, M. P. 145-150°, a crystalline combination of 2 molecules of the ethoxy-lupanin hydrochlorate with one and two molecules of $AuCl_3$ respectively.

A reduction product, prepared by treating the hydrobromate with hydriodic acid. This was a base whose iodo-methylate has same formula as the iodo-methylate of d-lupanine, $C_{15}H_{24}N_2OCH_3I$, and resembles it in all respects save in its gold and platinum salts.

The article closes with description of the other dehydrobromides mentioned above.—Arch. d. Pharm., 250 (1912), 691. (H. V. A.)

GUNPOWDER IN MEDICINE.

F. Berger presents an interesting historical paper showing use of gunpowder in medieval and folk medicine.—Schweiz. Wschr. f. Chem u. Pharm. L (1912), No. 49, 729. (H. V. A.)

WATER AND HYDROGEN DIOXIDE AS ACIDS.

Dr. J. Sperber presents his views on this subject, which includes the idea that metallic

hydroxides are primary salts (e. g. NaHO), while the metallic oxides are secondary salts (e. g. Na_2O). He calls such "salts" *aquates*, while corresponding metallic peroxides, he calls *hyperaquates*. This, according to his reasoning, eliminates bases from chemical nomenclature and he also seems to be of the opinion that the word "acid" will also disappear by considering all acids as salts of the "metal" hydrogen. The question of alkalinity and acidity he disposes of by calling attention to the fact that some normal salts (e. g. Na_2CO_3) are distinctly alkaline and that alkalinity and acidity are, therefore, functions of the individual ions rather than characteristics of two classes of compounds. He promises experimental work that will prove his contention.—Schweiz. Wschr. f. Chem. u. Pharm. L (1912), No. 50.—(H. V. A.)

FOCKE'S ASSAY OF DIGITALIS.

Dr. James Burmann publishes a short article strongly criticising all physiological digitalis assays with the frog, and particularly the method recommended by Focke.—Schweiz. Wschr. f. Chem. u. Pharm. L. (1912), No. 51, 757.—(H. V. A.)

LITHIUM.

F. Berger gives an interesting outline of the history of this metal and its supposed therapeutic action. The paper is accompanied by an excellent bibliography. — Schweiz. Wschr. f. Chem. u. Pharm. L. (1912), No. 40, 597. (H. V. A.)

CANTHARIDAL COLLODION.

In the last revision of the Swiss Pharmacopoeia the recipe for cantharidal collodion was so changed that instead of dissolving in flexible collodion an ethereal extract of cantharides, the preparation was "improved" by "dissolving" cantharidin in flexible collodion in proportion of 1 to 250. "E. B." calls attention to the fact that cantharidin will not dissolve in that proportion, its solubility in ether being 1 to 650 and in ether-alcohol mixture (similar to collodion) 1 to 460. He further proves his point by carefully preparing the cantharidal collodion as per directions of the present Swiss Pharmacopoeia when he found considerable of the cantharidin remained undissolved. He therefore suggests a recipe consisting of catharidin 0.2 gm., castor oil 5 gm., acetone 7 gm., larch turpentine 8 gm. and collodion 80 gm.—Schweiz. Wschr. f. Chem. u. Pharm. L. (1912), No. 45, 673. (H. V. A.)

SWISS TINCTURES AND FLUIDEXTRACTS.

Dr. Th. Knapp publishes a table showing the specific gravity and percentage of extractive (dried at 100°) of each of the tinctures and fluidextracts of the Swiss Pharmacopoeia as prepared in his own pharmacy.—Schweiz. Wschr. f. Chem. u. Pharm. L. (1912), No. 45, 676. (H. V. A.)

CULTIVATION OF MEDICINAL PLANTS.

Dr. Kurt Siegfried gave a lecture on this topic before the Swiss Apotheker Verein, outlining work done on this line in other countries, amount of drugs imported that might well be raised in Switzerland, and closing with some suggestions as to drug raising in general.—Schweiz. Wschr. f. Chem. u. Pharm. L. (1912), No. 46 and 47, 689 and 70. (H. V. A.)

VOLUMETRIC ESTIMATION OF IODIDES.

The assay process of Rupp and Schirmer for estimation of ferrous iodide by use of ferric chloride as oxidizing agent, suggested to W. Schirmer similar assays for the alkaline iodides. Potassium iodide can be assayed by dissolving 0.4 gm. KI in 20 cc. water, adding 5 gm. solution ferric chloride (of German Pharmacopoeia), letting stand an hour, then diluting with 100 cc. water, then adding 10 cc. 25% phosphoric acid, followed by 0.5 gm. KI (to dissolve separated iodine) and finally titrating with tenth-normal thiosulphate. Iodine can also be liberated from the iodide with sodium nitrite if precautions are taken to remove the excess of N_2O_3 produced by the reaction. Urea accomplishes this aim, the proper proportion being KI 0.5 gm., urea 1 gm. and nitrite 0.1 gm. Potassium iodate serves a similar purpose provided borax is added to neutralize excess of iodic acid. Details of this assay are given in the original paper.—Arch. d. Pharm., 250 (1912), No. 6, 448. (H. V. A.)

STARCH GRANULES AND A "ZAHLKAMMER."

Hartwich and Wichmann describe the difficulty in securing by microscopic means accurate results when estimating the amount of an adulterant in a powder mixture. To secure the needed accuracy they have devised a microscopic ruled slide that is a modification of the blood count slide. Their slide has etched upon it 100 squares, each of 1.5

square millimeters area. The squares are enclosed in a chamber, the walls of which are strips of cover glass 0.25 mm. thick. Into this chamber the powder (or usually its dilution with pure sugar, 1 to 100 or 1 to 1000) is placed, carefully weighed, and then a definite quantity of water (3 to 4 drops) is added and a cover glass placed over the chamber and the powder examined. On addition of the water, the sugar dissolves, leaving the powder, sometimes in very minute quantities, distributed over the slide, and a counting of the characteristic plant elements in three or four of the 1.5 square millimeter spaces usually furnishes a safe average.

A typical report is one on the percentage of clove stalks in a sample of powdered cloves. The stalks contain characteristic stone cells and from their number, the percentage of adulteration was deducted by the following reasoning: 0.01 gm. of a 1% triturate of clove stalks (0.0001 gm. of the stalks themselves) was put into the slide and on counting in three different experiments, 173, 166 and 156 stone cells were found. That is, there was an average of 165 stone cells to each 0.0001 gm. clove stalks or one stone cell to each 0.00000061 gm. clove stalk powder. Taking as "unknown" a sample of powdered cloves, that had been admixed with clove stalks, the observer calculated by count of the stone cells that the powder contained 15.65 percent stalks. In truth, 15 percent had been added.

The adulteration of saffron with sandal wood could likewise be proven by the wood particles, but this was more difficult, since the wood cells are not of uniform size. The average, however, was one wood cell to 0.000000028 gm. of powdered sandal wood.

Discussing starch granules, it is shown that the moisture of the different starches varies from 11.68 percent in wheat starch to 15.53 percent in canna starch.

From count of the several air-dried starches, was deduced the following weight of their granules:

Rice starch.....	0.000000000018 gm.
Corn starch.....	0.00000000082 gm.
Arrowroot starch....	0.0000000073 gm.
Wheat starch.....	0.000000000069 gm.
Canna starch.....	0.000000036 gm.
Potato starch.....	0.0000000076 gm.

The rest of the paper is given to discussing the relationship of size and weight of the granules and the verification of data so obtained by calculation of the density of the granules. The writers confirm Flukiger's statement of the marked difference in density if the granules are air-dried or dried at 100°, and also the interesting fact that while air-dried potato starch is lighter than arrowroot starch, when both are dried at 100° the potato starch is much heavier.—Arch. d. Pharm., 250 (1912), No. 6, 452. (H. V. A.)

Two New and Very Delicate Tests by use of the Reagent "Tetramethyl Base."—This is a modification of Trillat's test for traces of lead and manganese, as suggested by R. J. Carney, by means of the organic base tetramethyl diamino diphenylmethane, $((CH_3)_4N_2(C_6H_4)_2CH_2)$, later named "tetra methyl base" by Arnold and Mentzel to distinguish it from p-phenylenediamine, which had long been known as "tetra base."

The base is prepared as follows: A mixtrue of 30 gms. dimethylanilin, 10 gms. of formaldehyde, 200 cc. of water and 10 cc. sulphuric acid, is heated for one hour on a water bath, cooled, made alkaline with an excess of sodium hydroxide and the excess of dimethylanilin removed by steam distillation. Cool the contents of the retort, filter, wash well with water, and recrystallize once from alcohol.

Carney recommends the use of citric acid in place of acetic as originally used by Trillat, as being more stable towards light and does not form a precipitate on heating.

The reagent is made up by dissolving 2.5 gms. of the "tetra methyl base" in a solution of 10 gms. of citric acid in 10 cc. of water, afterwards diluting to 500 cc.

With any compound of lead or manganese in which the metal has a valence of more than two, a cold solution of the reagent will give a deep reddish purple color, due to an oxidation product of the reagent.

The reagent is proposed as a very delicate test for gold and ammonia, whereby 0.01 mg. gold in 50 cc. of solution may be detected, and from 0.01-.02 mg. NH_3 in the same amount of liquid.

With very dilute solutions of gold chloride, this reagent forms a very beautiful purple color, which soon changes to blue and then becomes colorless, the blue color reappearing upon warming. Platinum, paladium or other elements, do not interfere, but free mineral acids must be neutralized, then made acid with acetic or citric acid.

Ammonia may be detected with great accuracy by distilling from an alkaline solution and holding a piece of filter paper, moistened with a solution of 2 gms. of manganous sulphate and 5 cc. of hydrogen peroxide solution in 200 cc. of water, in the current of steam as it issues from the tube. Ammonia, if present, forms a brown spot, which turns purple when moistened with the organic reagent.—Journal American Chemical Soc., Jan., 1912, p. 32, v. 34. (L. A. B.)

The Leaf Oil of the Washington Cedar (Thuja Plicata).—According to R. E. Rose and Carl Livingston, the leaves and twigs of *Thuja plicata* yield about 1 percent of a clear, light yellow oil, with the characteristic odor of cedar boughs. The following constants were found: sp. gr. 20° C.=0.913; refractive index 20° C=1.4552; sp. rotation 20° C=—4.77°; acid number=0.518; ester number=2.28; saponification number=2.8; acetylation number=8.8.

An elementary analysis showed the absence of sulphur and nitrogen, and to contain C=78.6 percent; H=10.4 percent; which agrees very closely with that of a bicyclic ketone, $C_{10}H_{16}O$. The oil contained no phenols and was soluble in all proportions of anhydrous organic solvents and in 70% alcohol.

From the analytical results submitted, the authors conclude that the volatile oil of thuja plicata is composed of 80 to 85 percent thujone, 3-5 percent pinene, 1-2 percent tanacetyl acetate, 1-3 percent tanacetyl alcohol, leaving about 10 percent to be accounted for by loss due to formation of resin during distillation and experimental losses.—Journ. Am. Chem. Soc., Feb., 1912, v. 34, page 201. (L. A. B.)

The Reduction of Vanadic Acid in Concentrated Sulphuric Acid by Hydrogen Peroxide and Persulphates.—According to J. R. Cain and J. C. Hostetter, pentavalent vanadium can be immediately and quantitatively reduced to the quadrivalent condition by means of hydrogen peroxide or the peroxide of zinc, barium, magnesium or sodium in the presence of concentrated sulphuric acid. Molybdenum, titanium or iron do not interfere.

It was also found that concentrated sulphuric acid solutions of vanadium pentoxide could be reduced with persulphates.

The process is carried out by evaporating a solution of vanadium with concentrated sulphuric acid until fumes are given off freely, cool, add a slight excess of 3% H_2O_2, cover the flask and fume strongly for a few minutes more to destroy the excess of peroxide, after which the solution may be titrated against permanganate.—Jour. Am. Chem. Soc., March, 1912, vol. 34, page 274. (L. A. B.)

Syrupus Ferri Iodidi.—O. J. Cloughly, St. Louis, suggests the following as an improved process for syrup of iodid of iron:

Iron Wire (bright and cut in small pieces)	12.5 gm.
Iodine	41.5 gm.
Citric Acid	4 gm.
Sugar	600 gm.
Distilled Water, q. s.	
Solution Potassium Hydroxid	50 cc.

Place the iron wire in the solution potass. hydroxid in a proper container; shake it well for about ten minutes, decant and wash the iron thoroughly with distilled water; decant and repeat the operation until the iron is entirely free from the slightest trace of the hydroxid, then proceed with the directions of the U. S. P., replacing the dilute hypophosphorous acid with four grams of citric acid.

The cleansing of the iron wire with the hydroxid solution leaves the iron free from oxid or any other substance that might cause the finished product to turn dark. The hypophosphorous acid forms iron hypophosphate, which easily turns dark; the citric acid forms the citrate of iron, which gives the finished product the required green color.—Proc. Missouri Phar. Assoc., 1912, pp. 133, 134. (E. C. M.)

Elixir Ferri, Quininae et Strychninae Phosphatum.—O. J. Cloughly, of St. Louis, suggests the use of sodium hydroxide in the Elixir of Phosphates of Iron, Quinine and Strychnine and the elimination of the acetic acid and carbonate of ammonia. He proposes the following formula:

Soluble Ferric Phosphate	17.500 gm.
Quinine	8.750 gm.
Strychnine	.275 gm.
Phosphoric Acid	2 cc.
Solution sodium hydroxid	q.s.
Distilled water, Aromatic Elixir, of each	q. s.

Dissolve the quinine and the strychnine in the alcohol, then add the phosphoric acid

and 350 cc. of aromatic elixir. Dissolve the ferric phosphate in 30 cc. of distilled water by the aid of a gentle heat and add the solution of sodium hydroxid to almost neutralize the solution (be careful not to get it too strong or it will throw out the alkaloids), and add enough aromatic elixir to make the product measure 120 cc. Finally mix the two solutions and filter. Add enough simple elixir to make 1000 cc.—Proc. Missouri Phar. Assoc., 1912, p. 133. (E. C. M.)

Tinct. Opii Deodorati.—William K. Ilhardt, of St. Louis, discusses the preparation of deodorized tincture of opium from deodorized opium and suggests the following process for preparing the same:

Deodorized granular opium, (12-12½%)	100 gm.
Alcohol	200 cc.
Water, q. s.	1000 cc.

Heat 500 cc. of water to boiling, pour it on the granulated opium contained in a suitable vessel, stirring occasionally during 24 hours. Then transfer the mixture to a percolator, return the first portion of the percolate until it runs through clear, and continue the percolation until the opium is exhausted. Reserve the first 650 cc. of percolate, add to this the alcohol, and evaporate the remainder on a water bath until it measures 100 cc. Allow it to cool and mix with the reserved portion; filter this mixture, rinse the dish with water and pour on the filter, using sufficient to make 1000 cc. of tincture.

The alcohol is added to the reserved portion to preserve it, since it is not evaporated as in the official process.

One advantage of the proposed *technique* is that the bulk of the extract and the alkaloids are not subjected to prolonged heat.—Proc. Missouri Phar. Assoc., 1912, pp. 112-3. (E. C. M.)

Tinct. Opii Deodorati.—O. J. Cloughly, of St. Louis, suggests the use of paraffin in making deodorized tincture of opium, to replace the benzin of the official process:

Granulated opium	100 gm.
Paraffin	q. s.
Alcohol	200 cc.
Water	q. s.

Heat 500 cc. of water to boiling and pour it on the granulated opium contained in a suitable vessel, stirring the mixture frequently during twenty-four hours. Then transfer the mixture to a percolator, return the first percolate until it runs through clear and when the liquid ceases to drop, continue the percolation with water until the opium is exhaused; concentrate the percolation by evaporation over a water bath until it measures 150 cc. Take about 60 grams of paraffin and melt to a liquid and add to the opium while it is still hot and beat the two together for about five minutes, then set aside to cool. When cool, break a small hole through the paraffin, which will rise to the top, and drain off the opium, which will be completely deodorized. Mix the deodorized liquor so obtained with 600 cc. of water, filter and add the alcohol; wash the filter with sufficient water to make 1000 cc.—Proc. Missouri Phar. Assoc., 1912, p. 132. (E. C. M.)

Alcoholic Assay by evaporation method.—Mr. Claude Mason, state chemist of Idaho, reviews the different methods of alcoholic assay and recommends the following method as one of easy application by pharmacists in determining the alcoholic content of their preparations. The specific gravity of the sample is determined. Then 50 to 100 cc. is carefully evaporated to about one-fourth of its original volume. This is returned to the measuring flask and distilled water is added sufficient to make it of its original volume. The specific gravity of this is then taken. Add one to the specific gravity of the original sample and subtract the specific gravity of the de-alcoholized product from this and the difference corresponds to the specific gravity of the alcoholic sample. The percent of alcohol is then found by referring to the specific gravity tables of the Dispensatory, all taken at 60° F. or 15.6° C.—Proc. Idaho Phar. Assoc., 1912, pp. 22, 23. (E. C. M.)

Coal Tar Products and the Drug Trade.—Charles B. Kelsey, of Grand Rapids (?), says that coal tar is one of the three residuals of most importance in the manufacture of coal gas, about twelve gallons of this product being obtained from every ton of coal carbonized. The utilization of coal tar products as applied to the manufacture of dyes and medicinal preparations, is monopolized by the German laboratories on account of the great difference in wages received by the chemists of that country compared with those of America. Only two of the so-called

coal tar products handled by druggists occur naturally in coal tar—Naphthaline and the various grades of Carbolic Acid. Naphthaline is mostly known to druggists as Moth Balls, Moth Flakes, etc. The druggists of the United States handle about 5,000,000 pounds a year of this substance as moth preventives. Its effectiveness for this purpose depends upon the distaste which the flying moth has for its odor.

The other natural derivative handled by druggists is Carbolic Acid, under the names of Phenol U. S. P. and Cresol U. S. P. Both of these are known as Carbolic Acid, one termed crystallized, and the other carbolic acid for disinfecting purposes. The latter is not always U. S. P. Cresol, as a less highly refined grade is as satisfactory for this purpose.—Proc. Idaho Phar. Assoc., 1912, pp. 10-12. (E. C. M.)

Coal Tar Products and their Manufacture.—George McDermand, the chemist of the tar department, Denver Gas and Electric Light Co., furnishes an interesting paper on coal tar products, giving their methods of manufacture, uses, etc., avoiding the use of technical terms as far as possible, so as to make it intelligible to the average pharmacist.—Proc. Idaho Phar. Assoc., 1912, pp. 36-40. (E. C. M.)

Biologics, their specificity.—Mr. W. F. Richter, of Berkeley, Cal., contributes an interesting paper on this subject in which he says: "In some diseases, such as diphtheria and tetanus, the causative organisms remain at the point of introduction into the body. The diphtheria bacillus remains localized in the 'patch.' During their growth they elaborate very potent toxins or poisons which are carried to the various tissues of the body upon which each exerts its particular action, producing a symptom complex characteristic of the disease. It is probable that in these cases the body not only forms substances antagonistic to the existence of the bacteria, but also substances that have a neutralizing effect upon the toxin. By isolating these toxins and injecting them into animals, large amounts of these toxin neutralizing bodies (anti-toxins) are produced. Here again these substances show a true specificity in that the serum of animals immunized against diphtheria toxin will neutralize only diphtheria toxin and not tetanus toxin. Likewise, tetanus antitoxin will only neutralize tetanus toxin."

The lower animals are immune to syphilis, typhoid fever and other diseases which affect mankind, and fowls are able to withstand many times the quantity of tetanus toxin that would kill a horse. Yellow fever rarely occurs in the negro race. Such insusceptibility is termed inherited immunity. In contradistinction to this form is acquired immunity(which may be either natural or artificial.) He describes the methods of acquiring the latter immunity, both active and passive, describes vaccines and serums and calls particular attention to the fact that failure in many cases to cure, may be due to lack of proper selection of the bacterial vaccine or serum.—Proc. Idaho Phar. Assoc., 1912, pp. 29-34. (E. C. M.)

Spiritus Ammoniae Aromaticus.—Dr. Linwood A. Brown concludes from a study of the storage of this preparation extending from March to June, 1911, that it should be kept in glass or rubber-stoppered bottles, at a temperature not exceeding 15° C. or 60° F. and not at so low a temperature that the ammonia salt shall be deposited.—Proc. Kentucky Phar. Assoc., 1912, pp. 136-139. (E. C M.)

Liquor Sodae Chlorinatae.—Mr. E. F. Kelly, of Roland Park, Md., after a study of this preparation and a comparison of the method for its manufacture with that of the method for Liquor Potassae Chlorinatae N. F., says that the latter process is the better one for the manufacture of the soda preparation, with the necessary change of ingredients, etc., and with the correction that the final quantity should be 1000 grams.—Proc. Md. Phar. Assoc., 1912, pp. 132-134. (E. C. M.)

Pharmacopoeial Plants of Maryland, etc.—Prof. Charles C. Plitt, of the University of Maryland, makes an analysis of the sources of the articles included in the Pharmacopoeia and finds that 638 of them are of botanical origin and urges pharmacists to take more interest in that side of their profession, declaring that they will be more than repaid in the pleasure derived from the study.—Proc. Md. Phar. Assoc., 1912, pp. 94-98. (E. C. M.)

Editorial Notes and Announcements

JAMES H. BEAL, Editor.....Scio, O.

All communications for insertion in the JOURNAL, or respecting advertising should be sent to the Editor.

The Association does not accept responsibility for the opinions of contributors. Offensive personalities must be avoided.

Under the rules of the Post Office the JOURNAL can be regularly mailed only to bona-fide paid subscribers. Subscriptions and association dues should be sent to the Treasurer, H. M. Whelpley, 2342 Albion Place, St. Louis, Mo.

Requests for back numbers, and claims for missing numbers should be sent to the Editor.

Claims for missing numbers will not be allowed if sufficient notice has not been given of change of address, and in no case if received later than sixty days from the date of issue.

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REPRINTS.

If the request is made at the time copy is submitted, authors will be furnished with not to exceed 50 reprints, without cover, of papers accepted for publication in the JOURNAL.

Larger numbers of reprints will be supplied by the Stoneman Press Co. at the following prices, provided the order is received before the type has been distributed:

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Orders for reprints may be sent either to the Editor, or to the Stoneman Press Co. Columbus, Ohio.

A GOOD START.

The faculty of the Buffalo College of Pharmacy have nominated to membership in the A. Ph. A. four of the "Honor Men" of the graduating class of 1913. The names of the young gentlemen who are thus distinguished are:

Stratton Walley Bower, 46 Chedell Place, Auburn, N. Y.

Evel Polonsky, 1061 Broadway, Buffalo, N. Y.

Richard J. Ulrich, 402 Cedar Ave., Niagara Falls, N. Y.

Glenn M. Zoller, Alexandria Bay, N. Y.

These young gentlemen are to be congratulated upon their success. They have graduated from an institution of high grade, and are now nominated for membership in an Association that is mentioned with respect wherever the language of pharmacy is spoken. They have a good start.

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PROGRAM OF THE SCIENTIFIC SECTION.

Frank R. Eldred, Chairman.
John M. Francis, First Vice Chairman.
Wilbur L. Scoville, Second Vice Chairman.
Freeman P. Stroup, Secretary.

Meetings will be called to order promptly at 2:30 p. m. on Tuesday, Wednesday and Thursday.

1. Chairman's Address. The Deterioration of Pharmaceutical Preparations.

2. Charles E. Caspari. The Determination of Sanatonin in Santonica.

3. Hermann Engelhardt and O. E. Winters. The Estimation of Phosphorous in Tablets, Pills, etc.

4. Charles H. Lawall. A New Form of Separatory Funnel for Preventing the Formation of Emulsions in Shaking Out with Immiscible Solvents.

5. Charles H. LaWall and Leroy Forman. Methods of Estimating Oil of Peppermint in Spirit of Peppermint.

6. Charles H. LaWall and Leroy Forman. Methods of Examination of Extract of Vanilla.

7. E. A. Ruddiman. The Examination of Proprietary Medicines.

8. Linwood A. Brown. Some New Methods for the Analysis of Certain Drug Preparations.

9. W. D. McAbee. The Phosphoric An-

hydride Content of Syrup of Hypophosphites.

10. H. T. Graber. Observations upon the Assay of Pepsin.

11. Azor Thurston. Linseed Oil.

12. H. W. Jones. Some Notes on the La-Wall Assay Process.

13. H. A. B. Dunning. Detection and Estimation of Minute Quantities of Methyl Alcohol in the Presence of Ethyl Alcohol and Formaldehyde in the Presence of Hexamethylenetetramine.

14. Francis D. Dodge. Notes on the Analysis of Essential Oils.

15. Edward Kremers and Nellie Wakeman. An Examination of the Volatile Oil of Monarda Citriodora.

16. Edward Kremers and C. W. Talbot. The Crystalline Glucoside from Gaultheria Procumbens.

17. H. M. Gordin and Jay Kaplan. Note on the Comparative Adsorption of Different Substances by Lloyd's Reagent, Animal Charcoal and Aluminum Hydroxide. Complete Adsorption of Alkaloids.

18. L. E. Sayre. Oregon Balsam.

19. L. E. Sayre. Gelseminine—Further Report of Progress in the Purification of this Alkaloid.

20. Frank Rabak. The Effect of Geographical Source on the Volatile Oil of Hops.

21. A. F. Sievers. Individual Variation in Belladonna Plants as a Basis for Improvement by Selection.

22. F. A. Miller. The Influence of Soil Composition on Medicinal Plants.

23. F. A. Miller and W. F. Baker. The Comparative Activity of Various Species and Varieties of Digitalis.

24. F. A. Miller. The Commercial Possibilities in Growing Medicinal Plants.

25. W. W. Stockberger. The Field for Drug-Plant Breeding.

26. W. W. Stockberger. Cunila mariana, a Substitute for Spigelia.

27. Henry Kraemer. Reactions of Plant Substances with Certain Reagents.

28. Wm. Mansfield. Plant Hairs of the U. S. P. and N. F. Drugs.

29. Wm. Mansfield. Papain of Commerce.

30. Heber W. Youngken. The Relation of Pharmacognosy to the Practice of Pharmacy.

31. E. N. Gathercoal. The Pharmacognosy Museum.

32. John Uri Lloyd and J. T. Lloyd. Coca: Its History and Uses by the Indians of the Colombian Andes.

33. Otto Raubenheimer. Bethabara.

34. Charles E. Vanderkleed and Fritz Heidlberg. Metal Colloids, Their Increasing Importance as Remedial Agents.

35. Fritz Heidlberg, Paul S. Pittenger and Charles E. Vanderkleed. A Pharmacodynamic Study of the Pituitary Gland, with Tests of a New Product.

36. Paul S. Pittenger and Charles E. Vanderkleed. A New Uterus-Contracting Method of Testing Ergot, with Comparison with the Blood Pressure Method.

37. Charles E. Vanderkleed and Paul S. Pittenger. Variation in Susceptibility of the Guinea Pig, Continuation of a Previous Study.

38. C. C. Haskell. Deterioration of Digitalis Tinctures and Fluid Extracts.

39. C. C. Haskell. The Relative Activity of Various Galenical Preparations of Ergot.

40. C. C. Haskell and W. A. Doeppers. The Rate of Deterioration of Ouabain Solutions.

41. C. C. Haskell and F. A. Miller. The Influence of Curing and Storage upon the Activity of Digitalis Leaf.

42. Paul S. Pittenger. An Improved Form of Kymograph.

43. E. G. Eberhardt and Frank R. Eldred. Bibliography of the Deterioration of Drugs and Pharmaceutical Products.

44. Jacob Diner. Autogenous Vaccines.

45. Severance Burrage. Biological Products; Their Use and Abuse.

46. Wilbur L. Scoville. Tincture of Cantharides.

47. George D. Beal. The Preparation of Pure Dextrose and Sucrose Caramels.

48. B. L. Murray. Acidity of Hydrogen Dioxide Solution.

49. E. E. Wyckoff. Hypophosphorous Acid.

50. L. F. Kebler. Are Tablets of Uniform Composition?

51. C. H. Briggs. How Much Should Compressed Tablets Vary in Weight?

52. Bernard Fantus. The Making of Tablets by the Retail Pharmacists.

53. M. I. Wilbert. The Proposed List of Useful Remedies.

54. C. S. Woods. Consideration of Some Newer Remedies.

55. F. E. Stewart. Suggestions Regarding

the Work of the Scientific Section of the A. Ph. A.

56. Albert Schneider. Some Chinese and Japanese Pills, Tablets and Powders Imported into the United States.

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PROGRAM OF THE SECTION ON PRACTICAL PHARMACY AND DISPENSING.

1. "The Most Difficult Things to Learn in Dispensing"—By H. P. Hynson, Baltimore, Md.

2. "Syrup of Lactucarium"—By L. E. Sayre, Lawrence, Kans.

3. "Practical Hints of a Dispenser"—Franklin M. Apple, Philadelphia.

4. "Lotio Alba Demonstrated with Samples"—By Otto Raubenheimer, Brooklyn, N. Y.

5. "Shape and Color of Tablets for External Use"—By Otto Raubenheimer, Brooklyn, N. Y.

6. "A New and Satisfactory Formula for Liquor Antisepticus, U. S. P."—By Charles H. LaWall, Philadelphia.

7. "A New and Satisfactory Formula for Liquor Antisepticus Alkalinus"—By Charles H. LaWall, Philadelphia.

8. "Some Practical Microscopical and Bacteriological Work for the Pharmacist"—By Albert Schneider, San Francisco.

9. "The Value of Vegetable Drugs to Pharmacists and Physicians."—By William Mansfield, New York, N. Y.

10. "Mistura Glycyrrhizae Composita"—By Henry Utech, Meadville, Pa.

11. "Do Physicians Understand the Fundamentals of Prescription Writing?"—By R. H. Needham, Fort Worth, Texas.

12. "Notes on the Decomposition of Neo-Salvarsan"—By Fred E. Niece, New York, N. Y.

13. "Some Additional Sources of Error in the Chemical Examination of Urine"—By J. L. Mayer, New York.

14. "Factors and Facts in the Practice of Pharmacy"—By Wm. J. Lowry, Jr., Baltimore, Md.

15. "Camphorated Oil in Ampoules," Simple Apparatus for Filling (with Demonstrations)—By J. Leon Lascoff, New York.

16. "Liquid Shampoos and Toilet Soaps, with Formulas"—By Ernest E. Jones, Detroit, Mich.

17. "A Good Finish for Prescription and Laboratory Table Tops"—By F. W. Nitardy, Denver, Colo.

18. "Suspension of Calomel"—By F. W. Nitardy, Colo.

19. "The Liniments of the U. S. P. and N. F." "A Few Suggestions"—By Thomas Latham, New York.

20. "Practical Pharmacy and System in the Prescription Department"—By H. G. Posey, New Orleans, La.

21. "A Prescription and a Query"—By A. W. Bender, Philadelphia.

22. "Counter Prescribing"—By Bernard Sacks, New York.

23. "Liquor Magnesii Citratis"—By J. Lee Brown, Marshfield, Oregon.

24. "The Necessary Apparatus in a Reputable Prescription Pharmacy"—By Jeannot Hostman, New York.

Other titles of papers will be published later. Fraternally,

J. LEON LASCOFF.

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SUPPLEMENTAL REPORT OF TRANSPORTATION COMMITTEE.

In connection with the meeting of the American Pharmaceutical Association at Nashville, Tenn., next August, the Transportation Committee recommends to the members that they use the following service:

SCHEDULE.

Leave New York, Penna. R. R.	9:30 pm
Leave Philadelphia, Penna. R. R.	12:15 am
Leave Baltimore, Penna. R. R.	2:50 am
Arrive Washington, Penna. R. R.	3.55 pm
Leave Washington, Southern Ry.	4:10 am
Leave Bristol, Southern Ry.	2:40 pm
Arrive Chattanooga, Southern Ry.	10:00 pm
Arrive Nashville, N. C. & St. L.	2:55 am

Passengers may occupy the car at Nashville until 7 am.

Leave Nashville, N. C. & St. L.	9:30 pm
Leave Chattanooga, Southern Ry.	5:20 am
Arrive Bristol, Southern Ry.	1:32 pm
Arrive Washington, Southern Ry.	12:15 am
Arrive Baltimore, Penna. R. R.	1:38 am
Arrive Philadelphia, Penna. R. R.	4:25 am
Arrive New York, Penna. R. R.	7:13 am

Passengers joining from Baltimore may go to Washington in the evening and take space in local car put on train at Washington which is open for occupancy at 10 p. m. night

before departure; passengers from Washington, of course, can also be accommodated in the same car. Passengers using the local sleeping car from Washington will change to the Nashville car while en route some time during the day.

This train is composed of highest class, modern, steel, electric lighted sleeping cars; dining cars; also an observation car between Washington and Chattanooga, Tenn.

The one-way rate from New York to Washington is $5.65; the 10-Day Excursion rate is $10. From Washington, the Southern Railway will announce the rate of $30.25, Washington to Nashville, Tenn., and return, tickets being sold from there August 16 and 17, limited to reach Washington returning by midnight of September 1, 1913. It is suggested by the Transportation Committee that arrangements be made for party to leave on Saturday, August 16th, which will place them in Nashville Monday morning. The lower berth rate from New York to Nashville is $5.50; upper berth, $4.40.

It is thought that some of the members may desire to stopover in Chattanooga on return trip which may be arranged for one day, only, in order to visit Lookout Mountain, Chickamauga Park, Missionary Ridge, etc.

If any members desire to go on the Old Dominion Line from New York to Norfolk, thence rail, that may be arranged, such parties leaving here Friday. The round trip rate from Norfolk will be $30.45. The round trip rate to Norfolk is $14, good for 30 days.

Send all applications for reservations of sleeping car space and railroad transportation to Mr. Alex. S. Thweatt, Eastern Passenger Agent, Southern Railway, 264 Fifth Ave., New York City, who will have the matter in hand.

DR. WM. C. ALPERS,
Member, Transportation Committee.

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THE ST. LOUIS A. PH. A. DELEGATION TO NASHVILLE.

The St. Louis party will leave on the Dixie Flyer Sunday, August 17, at 8:30 p. m., reaching Nashville Monday at 8:35 a. m. The convention rate for the round trip is $14.30. Sleeper fare is $2 each way. Tickets are on sale, August 16 and 17, good to return as late as September 1.

Some of the delegates will leave on the Dixie Flyer Saturday night, arriving at Nashville Sunday morning. Parties desiring to join the St. Louis delegation should inform the St. Louis member of the Committee on Transportation, Dr. H. M. Whelpley, 2342 Albion Place.

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THE NATIONAL ASSOCIATION AT CINCINNATI.

The N. A. R. D. Convention will take place in the week of August 25th. Extensive preparations are under way, to make this Convention the most notable in the history of the N. A. R. D.

For the stranger who has never had an opportunity to visit Cincinnati, or whose visit has not been within the last years, a trip to the Convention City will be worth while. Some things which Cincinnati offers cannot be offered by any other city in the country. Particularly the suburbs and the surrounding hills of Cincinnati, the beautiful scenery along the Ohio River, and the many public institutions, will be an attraction. Many of the entertainment features will take place at the Cincinnati Zoological Garden, which is one of the beauty spots of the country, at the same time being possibly the best equipped Zoo.

Aside from the work of the Convention proper, the entertainment features which have been arranged for, will fully compensate the expense of the trip. The entertainment will include a dinner, tendered by the Ohio Valley Druggists' Association, to the entire Convention, including delegates, their ladies and visitors. This dinner will be given at the Club House and surrounding grounds of the Cincinnati Zoological Garden. Arrangements are being made to dine fifteen hundred, and it will be the first time in the history of the Cincinnati Zoo that so many guests have been entertained at one time. A really unique entertainment for a Convention week has been arranged by The American Druggists' Fire Insurance Company, in the form of a theatrical performance, which will be rendered exclusively for the Convention. Under the direction of the Schuster Dramatic School, one of the noteworthy institutions of that kind in the country, the cast including some of the best known professionals, there will be given a special performance of Shakespeare's "Twelfth Night." The performance will be

given in the open, on a stage specially constructed under the magnificent large trees of the Cincinnati Zoological Garden. Particular attention is being given to the smaller details, so as to give the performance as nearly in keeping with the time of the Shakespearean period as it will be possible to give it. It is safe to say, that never in the history of Pharmaceutical Conventions has so elaborate an entertainment been contemplated. An opportunity will also be had to enjoy the beautiful scenery along the Ohio River. The Wm. S. Merrell Chemical Company has chartered the largest steamer floating on the Ohio River for that purpose. Aside from a trip up and down the river, its arrangements include an old-fashioned Kentucky barbecue at Coney Island, one of the summer resorts near the city. Those who have not had an opportunity to take part in this old-fashioned Kentucky hospitality, certainly have a treat in store through the generosity of the Wm. S. Merrell Chemical Company. The Womans' Organization of Cincinnati is making special effort for the entertainment of the visiting ladies, and their program will include many special features which will keep the ladies busy during their stay in the Convention City.

Cincinnati is determined to make the N. A. R. D. Convention a success. It will be worth the time and money for every retail druggist to plan both a business and pleasure trip for himself and family, to include the N. A. R. D. Convention at Cincinnati, during the last week of August. A time of the year when the climate in that section of the country is ideal. For those who have never had the opportunity, it will also be a splendid occasion to make a side trip to the world-renowned Mammoth Caves.

E. H. THIESING.

Council Business

COUNCIL LETTER No. 16.

PHILADELPHIA, July 1, 1913.

To the Members of the Council:

Motions No. 28 (*Appropriation of* $2200 *for Volume* 39 *of the Proceedings*), and *No.* 29 (*Appropriation of* $50 *for Section on Commercial Interests*) have each received a majority of affirmative votes.

The following communication has been received from C. Lewis Diehl, Chairman of the Committee on National Formulary:

"The revision of the N. F. has been so far advanced that a final review and, if necessary, correction of the proposed text has become necessary, in order to make it possible to submit the same to the Association for approval at the annual meeting in August. This will necessitate their publication to the committee through the Bulletins of the Committee, which have heretofore been so efficiently issued by Mr. Wilbert. Unfortunately, owing to his severe illness and the consequent prohibition by his medical advisors to engage in any work for several months, makes his valuable services no longer available, and we have therefore been forced to make arrangements for the rapid continuance of this work by an expert stenographer, so that there may be no avoidable delay. Prof. E. Fullerton Cook has succeeded in securing a competent stenographer in Philadelphia, who is specially qualified to prepare the stencils and to deliver them to him in their corrected form for mimeographing for a reasonable sum, Professor Cook himself agreeing to make and distribute the mimeograph copies, so that the Bulletins will rapidly follow each other, weekly or oftener.

"Mr. Wilbert, as you know, did this work for the Association without compensation, only rendering from time to time his bill of expenses for stationery and other material, and postage. The work of preparing the stencils will now have to be paid for, and there are other expenses which should be paid promptly at the end of each month. It is, moreover, desirable that these payments should not, as heretofore, go through the circumlocutory process of financing at present in vogue, if this can be avoided. In other words, an appropriation should be available which will permit the payment of these bills by the treasurer if they have been approved by the Chairman of the Committee on N. F., and by the General Secretary.

"The authority for publishing these Bulletins was given by the adoption of the report of the Committee on the N. F. at Richmond, recommending this publication (see Proceedings 1910, 524), which also carried with it an appropriation "not exceeding $1000.00 for carrying on experimental work." It is immaterial now, whether, as probably intended, this appropriation also included the preparation and circulation of the Bulletin. Suffice it to say that only a comparatively small proportion of this appropriation has been expended for *actual experimental* work, and that even if the amount paid out for the publication of the Bulletin up to the present be included, there is still a sum available from this appropriation to probably pay for the increased number and expense of Bulletins now required.

"I confess, I do not understand the intricacies of our financial methods in vogue;

but whatever happens, it is clear to my mind that it will be necessary to provide for a final discussion and approval by the Committee of the proposed text for the revised N. F. before it can be submitted to the Association for approval.

"May I ask you to submit this letter to the Council for such action as may be necessary to carry on this important work?"

It is in order to state that the 1910-1911 appropriation of $1000 referred to by Professor Diehl expired with the end of that fiscal year.

In 1911-12, $1000 was appropriated for "National Formulary-General Account," with "Reappropriation of balance in National Formulary Experiment Fund." (*A. Ph. A. Bulletin*, 1911, 322).

In 1912 the Budget contained an item for "Reappropriation of balance in National Formulary Experimental Fund" of $728.62, and one for "National Formulary general expenses" of $1000, but under Motion No. 21 (Council Letter No. 9, January 2, 1912), these appropriations were made one lump sum of $1728.62, instead of two separate items, as in the proposed Budget. (*Journal A. Ph. A.*, 1912, 82, 186).

In 1913, in the Budget (Item No. 5), the appropriation for the National Formulary was made $1000 (Council Letter No. 6; *Journ. A. Ph. A.*, 1913), and against this appropriation, the Chairman of the Committee on Finance states, only a small amount has been drawn.

The appropriation for 1913 includes both the "general expenses," and the "experimental expenses," as in 1912.

The bills of the Association are paid in accordance with the "Rules of Finance," as adopted by the Association. General Secretary Beal is of the opinion that the plan followed is cumbersome and not in accord with modern business methods. Every bill, approved by the proper authorities, must be audited by the Finance Committee, before an order can be drawn on the treasury; then the check, in addition to the Secretary's signature, must be signed by the President, Chairman of the Council and the Treasurer. Naturally, such a method means much delay in the payment of bills, and it would seem to be in order to devise a simpler and more flexible system of bill-paying, and yet one that would properly safeguard the interests of the Association.

Prof. Diehl suggests that the bills for National Formulary work shall not, as heretofore, go through the circumlocutory process of financing at present in vogue, if this can be avoided, but that the bills shall be payable by the Treasurer, if they have been approved by the Committee on N. F. and by the General Secretary. Such a procedure would require a suspension and modification of the "Rules of Finance."

Would it not be better to consider the whole subject of the business and financial methods of the Association at the Nashville (1913) meeting with the thought of framing a system that would meet modern needs and requirements? This could be done directly at the Nashville meeting, or better probably through a report from the Committee on Finance to the Council as the basis of discussion.

Motion No. 30 (Election of Members). You are requested to vote on the following applications for membership:

No. 202. Geo. H. Gould, 106 E. Main St., Louisville, Ky., rec. by H. M. Whelpley and J. W. England.

No. 203. Robert Emmett Stallings, 130 State Capitol, Atlanta, Ga., rec. by J. H. Beal and J. W. England.

No. 204. Clofton O. Prince, Winchester, Tenn., rec. by J. O. Burge and Iliff Conger.

No. 205. Walter J. Vitous, 1627 Railway Ave., N. W., Puyallup, Wash., rec. by Charles W. Johnson and L. S. Gilbertson.

No. 206. Lumir G. Vitous, Puyallup, Wash., rec. by Charles W. Johnson and L. S. Gilbertson.

No. 207. William Edward Danhauer, 404 Frederica St., Owenboro, Ky., rec. by H. M. Whelpley and J. W. Mackelden.

No. 208. F. H. Hudelson, Weatherford, Okla., rec. by Foress B. Lillie and H. M. Whelpley.

No. 209. Walter E. Fender, Sgt. Hospt. Corps, U. S. A., Post Hospital, Fort Porter, Buffalo, N. Y., rec. by Wm. B. Day and A. H. Clark.

No. 210. Robert Arthur Warren, Clarksville, Ark., rec. by Francis George Schachleiter and H. M. Whelpley.

No. 211. Elmer H. Hessler, 145 N. 10th St., Philadelphia, Pa., rec. by E. Fullerton Cook and Ambrose Hunsberger.

No. 212. Samuel Young Althoff, Owl Drug Co., Dallas, Texas, rec. by E. G. Eberle and J. P. Remington.

No. 213. John Irwin Hoffman, Coal Dale, Pa., rec. by G. H. Meeker and J. W. Sturmer.

No. 214. Hyman W. Ostrum, 108 W. Girard Ave., Philadelphia, Pa., rec. by J. W. Sturmer and G. H. Meeker.

No. 215. Joseph Wilson Beck, Winfield, Texas, rec. by E. G. Eberle and C. A. Duncan.

No, 216. Thompson A. Nooner, 173 E. 2d St., Fond du Lac, Wis., rec. by Thos. J. Shannon and J. O. Burge.

No. 217. Joseph Caruso, 182 Graham Ave., Brooklyn, N. Y., rec. by William C. Anderson and Frederic P. Tuthill.

No. 218. Israel Schwartz, 503 East 7th St., Brooklyn, N. Y., rec. by William C. Anderson and Henry W. Schimpf.

No. 219. Jack Edwin Justice, 214 Franklin St., Clarksville, Tenn., rec. by William R. White and F. L. Smith.

No. 220. John Raymond Ayers, Jr., 101 Chestnut St., Everett, Mass., rec. by Elie H. LaPierre and C. Herbert Packard.

No. 221. Richard C. Webster, 26 North Main St., Canton, Ill., rec. by W. B. Day and A. H. Clark.

No. 222. George W. Simmons, Utica, Miss., rec. by H. M. Foser and W. B. Day.

No. 223. C. E. Anding, Leakesville, Miss., rec. by H. M. Foser and W. B. Day.

No. 224. Joe C. Rousseau, Sergeant Hospital Corps, U. S. Army, Aviation Squadron, Signal Corps, San Diego, Cal., rec. by Dr. George F. Payne and Herman W. Riess.

No. 225. Heatherly Maynard, Sgt. 1st Class, Hospital Corps, 2d Division, U. S. Army, Texas City, Texas, rec. by Dr. George F. Payne and H. W. Riess.

No. 226. Adolph H. Lienhart, Ambulance Company No. 4, Ft. William McKinley, Rixal, P. I., rec. by Wm. B. Day and Edgar T. Hitch.

No. 227. John Roy Gilliland, 59th and Water Sts., Pittsburgh, Pa., rec. by J. H. Beal and J. W. England.

No. 228. Mrs. Mabel Lyon, 1430 College St., Bowling Green, Kentucky, rec. by E. Berger and J. H. Beal.

No. 229. Mrs. St. Claire Ransford Gay, 2787 Broadway, New York, N. Y., rec. by J. Roemer and Hugh Craig.

No. 230. William Penn Bishop, Crockett, Texas, rec. by E. G. Eberle and C. A. Duncan.

No. 231. George Jacob Echols, 308 West Main St., Richmond, Va., rec. by M. E. Hutton and Ira B. Clark.

No. 232. R. W. Waldrop, Lynnville, Tenn., rec. by J. O. Burge and Ira B. Clark.

No. 233. Samuel Marcus, Sgt. 1st Class, Hospital Corps, U. S. A., Fort Mills, Corregidor, Philippine Islands, rec. by Frederick R. Williams and Edgar T. Hitch.

No. 234. Charles William Jacob, 7405 Madison St., Forest Park, Ill., rec. by Chas. H. Avery and W. B. Day.

J. W. ENGLAND,
Secretary of the Council.

415 N. 33d St.

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COUNCIL LETTER No. 17

PHILADELPHIA, July 9, 1913.

To the Members of the Council:

The following motions have been received:

Motion No. 31 (*Additional Appropriation for Proceedings, Vol.* 59). Moved by J. H. Beal, seconded by J. A. Koch, that the sum of $1000, or so much thereof as may be necessary, be appropriated for Proceedings and Report on the Progress of Pharmacy in addition to that appropriated through Motion No. 28. This appropriation has been approved by the Committee on Finance.

Motion No. 32 (*Additional Appropriation for Drug Trade Conference*). Moved by J. H. Beal, seconded by J. A. Koch, that the sum of $125, or so much thereof as may be necessary, be appropriated to cover the expense of delegates in attendance upon the Drug Trade Conference, in addition to that appropriated by Motions Nos. 14 and 22. This appropriation has been approved by the Committee on Finance.

J. W. ENGLAND,
Secretary of the Council.

415 N. 33d St.

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COUNCIL LETTER No. 18.

PHILADELPHIA, July 24, 1913.

To the Members of the Council:

Motions No. 30 (*Election of Members; Applications Nos.* 202 *to* 234, *inclusive*), *No.* 31 (*Additional Appropriation for Proceedings, Vol.* 59) and *No.* 32 (*Additional Appropriation for Drug Trade Conference*) have each received a majority of affirmative votes.

Motion No. 33 (*Election of Members.*)

You are requested to vote on the following applications for membership:

No. 235. Perry Newton Black, 5165 Penn Ave., Pittsburgh, Pa., rec. by John C. Wallace and J. A. Koch.

No. 236. William Edward Burckart, 734 Court St., New Castle, Pa., rec. by Louis Saalbach and J. A. Koch.

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<>

SHOP LIFTING EXTRAORDINARY.

Recently one of the sort of customers who are in the habit of annexing portable articles that are not nailed down picked up from the counter of a Brooklyn drug store a package containing diphtheria culture that had just been left by a physician to be forwarded to the Board of Health for examination. The manager immediately hurried a clerk after her, stating that she had stolen a diphtheria culture package from the counter. The young man caught up with her outside, and said, "Madam, will you please return the package which you just now took from the counter?" She immediately became indignant and denied having taken anything which did not belong to her.

"Madam," said the clerk very seriously, "you have taken a package of diphtheria cultures left by a doctor and if you carry them home with you, you are liable to infect and kill every one in your household."

She emitted a horrified screech and at once produced the culture envelope, which was plainly labeled, making the excuse, which was undoubtedly an afterthought, that she thought it was a sample of some kind for free distribution.—*Voice of the Retail Druggist.*

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SUNRISE SONG.

The thing we want
Is hearts that rise above earth's worries like
The sun at morn, rising above the clouds,
Splendid and strong.

I stand at morn
And view the smoke curling above the roofs
In great volume, and thereby I know
The age is one of growing industries.

O man look up, even in the hour of weal,
When progress leads the nation and revere
The grace of God that watches o'er the earth.

When hearts of men
Are cloudless, free from all defiling strain,
The mighty gods, clearly beholding them,
Fill them with pure light.

No need to bear
Grudge against heaven or wreak one's spiteful spleen
Against one's fellowmen, when one reflects
On his own errors.

—*Emperor Mutsuhito (Japan).*

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*Report corrections at once to the General Secretary.

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